Proceedings of the first conference of the Australian Working Dog Alliance

WORKING DOG CONFERENCE

4 - 5 November 2013

Veterinary Science Conference Centre
University of Sydney
Sydney | New South Wales | Australia
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WELCOME

Welcome to the 2013 Working Dog Conference. The key aim of this conference is to share ideas and information across the broad industry sector groups of private, government, assistance and sporting groups, along with representatives from the scientific research, veterinary, government and animal advocacy groups. We encourage all participants to engage, disseminate and communicate their experience with working dogs to broaden our understanding of what we all do well. Whichever part of the working dog industry you represent, we are immensely grateful that you have chosen to spend your valuable time with us to advance the cause of Australian working dogs.

Our organising committee would like to welcome all delegates, speakers and sponsors to the conference. The sponsors have shown great generosity by lending their expertise and time to help the Working Dog Alliance bring this event together within a short time frame. We truly hope that the exceptional panel of speakers, both locally grown and from international sources, including the USA and UK, will create an atmosphere of intrigue and enquiry. We look forward to your active engagement over the course of the conference.

WIFI

Free WIFI access is available during the conference. Username and password details are available from the registration desk.
GENERAL INFORMATION

NAME BADGES

Your name badge is your entrance ticket to all conference sessions. Please wear your name badge at all time within the Veterinary Science Conference Centre. If you misplace your name badge, please see the team at the registration desk.

ATTENDANCE CERTIFICATE

Your certificate of attendance will be sent to you after the conference.

LIABILITY

The Australian Working Dog Alliance Inc. and the University of Sydney disclaim any liability for injury or loss suffered by delegates or other persons associated with the first Working Dog Conference 2013. The program is subject to change at any time without notice.

NO SMOKING

Delegates are advised that smoking is prohibited within the Veterinary Science Conference Centre.

MOBILE PHONE POLICY

As a courtesy to speakers and other delegates, please ensure that mobile phones are turned off or in silent mode during all presentations.
EXHIBITOR INFORMATION

AUSTRALIAN SPORTS & CANINE TRAINING CENTRE
www.lovesdogs.com.au

AUSTRALIAN WORKING DOG RESCUE INC
www.workingdogrescue.com.au

CHEMICAL ESSENTIALS
www.chemicalessentials.com.au

KONG
www.kongcompany.com.au

MICROCHIPS AUSTRALIA
www.microchips.com.au

PETRESCUE
www.petrescue.com.au
# DAY ONE: Session 1

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<th>TIME</th>
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<tbody>
<tr>
<td>9.00 am</td>
<td>Official opening and welcome</td>
<td>Working Dog Alliance</td>
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| 9.10 am  | Why does animal welfare matter?                                                  | Grahame Coleman  
Animal Welfare Science Centre  
University of Melbourne                                                               |
| 9.40 am  | Bold dogs: Handler opinions on behavioural traits in Australian working farm dogs | Jonathan Early  
University of Sydney:  
Farm Dog Project                                                                   |
| 9.50 am  | An investigation into the training methods used by professional dog trainers     | Catherine Webb  
University of Melbourne  
Proudly sponsored by PURINA                                                            |
| Student Researcher Travel Award Recipient |                                                                              |                                                                                               |
| 10.10 am | Managing cultural change to a behaviour based training philosophy: The journey    | Paul Adrian  
Guide Dogs Victoria                                                               |
| 10.25 am | Questions                                                                        | All speakers from session                                                                   |
| 10.35 am | Morning tea                                                                      |                                                                                               |
# DAY ONE : Session 2

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<td>11.00 am</td>
<td><strong>Keynote Presentation:</strong> Welfare of working dogs and its impact on performance – research so far</td>
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| 12.00 pm   | Matching guide dogs to people: Assessing the relationship between 50 people and their first guide dogs | Janice Lloyd  
James Cook University                                                   |
| 12.15 pm   | Estimating the economic value of Australian stock herding dogs                     | Elizabeth Arnott  
University of Sydney: Farm Dog Project                                  |
| 12.25 pm   | Saving lives simply & easily - end point management for working & sporting dogs    | John Bishop  
PetRescue                                                                |
| 12.45 pm   | **Questions**                                                                     | All speakers from session                                                   |
| 12.55 pm   | **Lunch**                                                                        |                                                                           |
## DAY ONE: Session 3

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| 1.35 pm  | **Keynote Presentation:** Your dog ain’t so special    | Steve White  
ProActive K9 & Seattle Police Canine Unit USA  
Proudly supported by                                                                 |
| 2.35 pm  | The Otways Conservation Dogs – developing volunteers for endangered species detection | Luke Edwards  
Canidae Development and Conservation Ecology Centre |
| 2.50 pm  | Characterising Dogmanship                               | Elyssa Payne  
University of Sydney                                                          |
| 3.00 pm  | **Questions**                                           | All speakers from session                                                  |
| 3.10 pm  | **Afternoon tea**                                       |                                                                           |
## DAY ONE : Session 4

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<tr>
<td>3.35 pm</td>
<td>Racing to retirement, is there a better way?</td>
<td>Karen Cunnington</td>
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<td>GreyCare</td>
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<td>3.50 pm</td>
<td>Research collaborations to optimise performance – lessons from Australia’s leading (human) athletes</td>
<td>David Pyne</td>
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<td>Australian Institute of Sport</td>
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<td>Proudly supported by PURINA®</td>
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<tr>
<td>4.20 pm</td>
<td>Questions</td>
<td>All speakers from session</td>
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<tr>
<td>4.30 pm</td>
<td><strong>Workshop:</strong> Identifying the priorities of Australia’s Working and Sporting Dog Industry stakeholders</td>
<td>Working Dog Alliance</td>
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<td>with independent facilitator to assist</td>
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<td>5.30 pm</td>
<td><strong>Social networking session</strong></td>
<td>Working Dog Alliance</td>
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<td>Drinks and canapés</td>
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## DAY TWO : Session 1

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| 9.00 am  | The five freedoms and beyond, for working and sporting dogs                          | Jade Norris  
RSPCA Australia                               |
| 9.15 am  | Dog training, the relationship to breeding and working dog behaviour: developing breeds based on performance | Kris Kotsopoulos  
Von Forrell Australia                           |
| 9.35 am  | Centre for service and working dog health - working hard for dogs that work for us   | Naomi Cogger  
Centre for Service and Working Dog Health  
Massey University NZ                            |
| 10.05 am | Cognitive bias: personality, welfare and significance in operant conditioning/training | Melissa Starling  
University of Sydney                           |
<p>| 10.25 am | Questions                                                                          | All speakers from session                      |
| 10.35 am | <strong>Morning tea</strong>                                                                    |                                                |</p>
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<tr>
<td>11.00 am</td>
<td><strong>Keynote Presentation:</strong> No problem!</td>
<td>Steve White ProActive K9 &amp; Seattle Police Canine Unit USA Proudly supported by</td>
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<td>12.00 pm</td>
<td>A pilot study of the genetic basis of canine separation-related distress disorder</td>
<td>Diane van Rooy University of Sydney</td>
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<td>12.10 pm</td>
<td>Early development and conditioning for working dogs</td>
<td>Boyd Hooper Tactical And Specialist K9</td>
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<td>12.30 pm</td>
<td><strong>Questions</strong></td>
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# DAY TWO : Session 3

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<tr>
<td>1.25 pm</td>
<td><strong>Keynote Presentation:</strong>&lt;br&gt;Measuring and investigating factors which affect the performance of working dogs, their handlers and dog-handler teams</td>
<td>Nicola Rooney&lt;br&gt;University of Bristol, UK&lt;br&gt;Proudly supported by PURINA</td>
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<td>2.25 pm</td>
<td>Risk factors associated with loss of working farm dogs in New Zealand</td>
<td>Naomi Cogger&lt;br&gt;Centre for Service and Working Dog Health&lt;br&gt;Massey University NZ</td>
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<td>2.35 pm</td>
<td>Recognising anxiety in working dogs - impact on dog and handler</td>
<td>Kersti Seksel&lt;br&gt;Sydney Animal Behaviour Service</td>
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<td>2.55 pm</td>
<td><strong>Questions</strong></td>
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<tr>
<td>3.30 pm</td>
<td>Workshop results</td>
<td>Working Dog Alliance</td>
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<td>3.45 pm</td>
<td>The role of stress in learning</td>
<td>Caroline Perrin</td>
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<td>Sydney Animal Behaviour Service</td>
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<td>4.05 pm</td>
<td>Giving working dogs a new (working!) start</td>
<td>Carey Edwards</td>
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<td>Australian Working Dog Rescue</td>
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<td>4.20 pm</td>
<td>Can models be used successfully to mimic the real thing to prevent canine predation of an endangered species?</td>
<td>Arnja Dale</td>
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<td>Department of Natural Sci, Unitec Institute of Technology &amp; School of Psychology, University of Auckland NZ</td>
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<tr>
<td>4.35 pm</td>
<td>Therapy Dogs: companions dogs that work</td>
<td>Gaille Perry</td>
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<td>Delta Society Australia</td>
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<td>4.45 pm</td>
<td>Questions</td>
<td>All speakers from session</td>
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<tr>
<td>4.55 pm</td>
<td>Closing comments</td>
<td>Working Dog Alliance</td>
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<tr>
<td>5.00 pm</td>
<td>Conference Close</td>
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Why does animal welfare matter?
Grahame Coleman
Animal Welfare Science Centre, University of Melbourne, Australia

The aim in this paper is to review the importance of animal welfare research for working dogs. The Five Freedoms provide a broad framework for research and practice for animals used for food, clothing and research, and, to some extent for companion animals. Often the focus of research has been on human-animal interactions and housing and their effects on animal welfare and, in the case of livestock, production. This has led to codes of practice and training programs designed to improve animal welfare. In the case of farm animals, these training programs have also led to improved productivity.

Much of the research on dogs has focused on the use of punishment in training, and the relationship between temperament and personality on the one hand and performance on the other. Much of the rationale for this research comes from various aspects of human psychology theory but often lacks conceptual clarity. However, it is possible to establish a framework to identify the possible links between dog characteristics, owner/trainer behaviour and welfare and performance outcomes for working dogs. Some of the links have already been substantiated by research and are being applied by practitioners. However there is substantial opportunity for greater collaborations between researchers and industry to produce evidence-based methods to obtain better welfare and performance of working dogs.
Bold dogs: Handler opinions on behavioural traits in Australian working farm dogs

Jonathan Early*, Elizabeth Arnott, Claire Wade, Paul McGreevy,
Faculty of Veterinary Science, University of Sydney, Australia

The University of Sydney Farm dog project aims to identify valuable behavioural working attributes and personality traits in Australian herding dogs that can be factored into modern genetic analyses to assist handlers and breeders in selecting the optimal dogs for their working environment. A recent study (submitted) by our group analysed eight Australian herding manuals and identified a lack of consensus in the frequency of use of 73 terms that describe attributes or manoeuvres. In consultation with the Working Kelpie Council of Australia Farm dog project advisory committee, a selection of terms from this study, and additional key terms from the peer-reviewed literature were presented in a questionnaire for Australian farm dog handlers and breeders. Handlers were recruited through working dog groups as well as print and visual media.

The Australian Farm dog Survey was conducted in the first half of 2013 and captured responses from 812 working stock dog handlers. A section of this survey focussed on behavioural traits, specifically 16 working manoeuvres (e.g. cast and cover), 11 working attributes (e.g. control and trainability), 5 general attributes (e.g. confidence and friendliness) and shy-bold expression. The value of each trait and attribute was assessed within three working environments, specifically mustering, yard, and utility (all-round) and one competition environment, trial (arena). The ease of training for each working manoeuvre was also assessed. The results show that boldness is considered of high value to farm dog handlers. They also indicate that traits are valued differently by handlers according to the environment in which they work.
Furthermore, they reveal that there is no consistent relationship between the value handlers assign to each working manoeuvre and the difficulty they report in training it. These survey results highlight the importance of identifying handlers’ preferences for behavioural traits specific to the working contexts in which they operate.

NOTES
An investigation into the training methods used by professional dog trainers

Catherine Webb*, Paul Hemsworth, Robert Holmes
Animal Welfare Science Centre, University of Melbourne, Australia

Training is an essential aspect of all working dog applications. There are many methods available to dog trainers that incorporate various principles of learning theory, particularly operant conditioning. However, there is limited information on the prevalence of these methods and the opinions of trainers on their effectiveness. A questionnaire was conducted to gain information on training methods used by Australian dog trainers. In relation to six common dog behaviour problems, professional dog trainers were asked what training methods they used, and how effective they thought the main dog training methods were for each of these behaviour problems.

The results indicate that there is a great deal of variation between trainers on what they believe is effective as well as what they use. There is a poor level of agreement between what trainers use compared to what they think is effective, with a kappa statistic < 0.2 (indicating poor agreement) for most of the operant conditioning procedures when comparing reported use to short or long term effectiveness. Trainers also appear to be unaware of the methods that other trainers are using, overestimating the use of positive punishment and underestimating the use of positive reinforcement, negative reinforcement and negative punishment by other trainers. These results highlight the need for research on the effectiveness of common dog training methods that incorporate various learning theory principles in order to ensure effective training and good welfare for working dogs.
Managing cultural change to a behaviour based training philosophy: the journey

Paul Adrian
Guide Dogs Victoria, Australia

The culture that exists in any group affects its beliefs, values, attitudes and behaviours. Guide Dog training enjoys a lengthy cultural heritage, its documented history stretching back nearly one hundred years. Many of the techniques employed by Guide Dog trainers have been passed on from practitioner to practitioner over many generations and continue to influence current practices.

A behaviour based training philosophy is one where the principals used to inform training and animal management practices are grounded in the science of learning theory. It seeks to emphasise the behaviour of the dog rather describing the animal in terms of perceived temperamental qualities such as willingness, initiative, dominance or drive. By doing so, it seeks to remove trainer bias and attitudes that may influence trainer behaviour when working with a dog. It promotes the view that the dog is an active participant in learning, as opposed to a passive recipient of training.

The perceived benefits of this cultural change include: improved animal welfare outcomes, higher productivity rates, improved training success rates and lower costs. Trainers and facilities staff also report greater job satisfaction and reduced injury rates. Cultural change challenges people's fundamental belief systems and can create anxiety, unrest and very often, defensive behaviour. This presentation highlights some of the benefits of adopting a behaviour-based philosophy to canine management, provides examples of this in practice and suggests ways in which the journey of cultural change can be promoted and facilitated.
PRESENTATION SUMMARY

Welfare of working dogs and its impact on performance – research so far

Nicola Rooney, Animal Welfare and Behaviour Group
Bristol Veterinary School, University of Bristol, United Kingdom

Research shows us that an individual animal’s ability to cope with their environment affects not only their wellbeing but also their working ability. This is relevant to all types of working dogs and our own studies of explosives search dogs illustrate a link between the stress levels dogs experience upon entering training kennels and their subsequent performance twelve weeks later. It is therefore important that we strive to design optimal housing, husbandry and training regimes to mitigate potential distress as well as selecting individual dogs carefully.

I will describe a range of research studies aimed at elucidating the best ways to improve kennelled dog welfare; prioritising those factors which are most important to the dogs. I will describe the importance of handler selection, based on attitude and behaviour and how training can improve handlers’ ability to detect the early signs of fear and hence avoid potential welfare problems. Finally I describe our recent and ongoing research into greyhound welfare, prioritising and addressing some of the issues most important to the greyhound racing industry.
Matching guide dogs to people: Assessing the relationship between 50 people and their first guide dogs

Janice Lloyd*, Kevin Stafford, Steven La Grow and R. Claire Budge
James Cook University, Australia

Matching a person who is blind or sight-impaired with a guide dog is a process of finding the most suitable guide dog available for that individual, and a successful match is one that is deemed to be ‘compatible’ by the handler (owner). Not all guide dog partnerships are successful, and the consequences of an unsuccessful partnership may be severe in terms of the reduction in mobility and quality of life for the handler, and time and resources for guide dog schools. Guide dog schools worldwide pay a great deal of attention to the process of matching a dog to its user, but little data exists in the literature on this process, nor on the outcome of the partnership. ‘Matching’ is an art as much as a science, and as such, there may be no such thing as a perfect match. However, there are several key factors to be considered when making a match that influence the success or failure of the process.

This study investigated how compatible people and their first guide dogs were on mobility and non-mobility issues, and identified the main reasons why some of these dogs were rejected. The results of this study show that the majority (84%) of handler and first guide dog relationships were successful. Dogs mainly ceased working due, in order of magnitude, to: retiring of old age, ill health and being unsuitably matched. Of the small number of dogs that were rejected (16%), dogs were deemed incompatible mostly for distraction/aggression to other dogs while working, followed by deficiencies with specific guiding tasks and social behaviours equally. Four items on a ‘compatibility scale’: the dog’s effects on mobility, the person’s
ability to control the dog, like-mindedness between the person and the dog, and the dog’s effects on social-interactions appeared to be good predictors of matching success. Issues such as: being emotionally attached to one’s dog, companionship, need for a dog and motivation to get one did not make a significant impact in this study.

These results may be of practical use to the Guide Dog Orientation and Mobility Instructor to identify important aspects of the matching process, and/or be used as a screening device to identify areas where a matching problem exists.
Estimating the economic value of Australian stock herding dogs

Elizabeth Arnott*, Jonathan Early, Claire Wade, Paul McGreevy
Faculty of Veterinary Science, University of Sydney, Australia

This study aimed to estimate the value of the typical Australian herding dog in terms of predicted return on investment. This required an assessment of the costs associated with owning herding dogs and estimation of the work they typically perform. Data on a total of 4,021 dogs were acquired through The Farm Dog Survey which gathered information from 812 herding dog owners around Australia.

The median cost involved in owning a herding dog was estimated to be a total of AU$7,763 over the period of its working life. The work performed by the dog throughout this time was estimated to have a median value of $40,000. So, herding dogs typically provided their owners with a 5.2 fold return on investment. When respondents were asked to nominate the maximal veterinary expenditure they would consider for an especially valued dog, the median response was AU$1,001 – AU$2,000 which is not concordant with the dogs’ calculated median lifetime value. The current findings equip working dog owners with useful information to make financially appropriate expenditure decisions related to their working dogs. This is expected to increase farm profitability and improve welfare for farm dogs.
Saving lives simply & easily - end point management for working & sporting dogs

John Bishop (JB)
PetRescue, Australia

PetRescue works with 650 rescue groups around Australia to help them find new, permanent homes for the animals in their care. With 450,000 potential pet adopters visiting the PetRescue website every single month, there’s a huge potential for homes to be found for working & sporting dogs that are unsuccessful, or being retired.

In this session, we’ll show you the benefits of working with rescue groups, and take you through some examples of groups that are already working effectively with industry to find homes for retired working and sporting dogs. We’ll give you some tips for behaviourally assessing the animals to make sure they’re the right fit for family life. And we’ll demonstrate that it doesn’t need to be difficult or expensive to implement these simple processes.

We’ll also take you through the benefits you can gain in public perception of your industry by engaging with our huge, national network of life-saving groups. We all want a great outcome for Australia’s working and sporting dogs, and PetRescue’s groups and services can help to make this happen – today.
PRESENTATION SUMMARY

Your dog ain’t so special

Steve White
ProActive K9 & Seattle Police Canine Unit, United States of America

Too often the mantra goes, “That's okay for tricks, pets, or sport, but not for real work.” With that, our eyes, ears, and minds close to great opportunities as K9 cops and ignore agility competitors, and detector dog handlers flee from obedience trainers for fear of “killing their dog’s drive.” What bunk!

We dog trainers often hang with our own kind and keep our methods close to our vests. There’s a natural temptation to believe that what our particular dogs do is so important and so unique that others’ solutions to similar problems are inapplicable. If human history is any indicator, that temptation may arise because tribalism and gravitating to the familiar are probably hard-wired aspects of human nature. Evolutionary biology notwithstanding, those traits don’t have to be deterministic. Becoming better trainers requires eagerness to explore the unfamiliar and see others’ perspectives, regardless of the discomfort involved. In this session we'll examine lessons learned by two organisations that initiated change by bringing in knowledge, techniques, strategies, and tactics from the outside. We’ll assess their results and what we can all learn from them as they sorted principles from dogma and both moved forward.
Combining conservation principles with positive reinforcement training techniques, the Conservation Ecology Centre and Canidae Development have developed an approach that has potential to revolutionise endangered species survey techniques by complementing traditional fauna sampling methods. Through the creation of volunteer conservation detection dog teams, surveys can be conducted efficiently and effectively to assist in targeting conservation efforts. This technique is being piloted using the Otway population of the endangered Tiger Quoll, a population which, until recently, had gone undetected for nearly a decade.

Methodology: Detection dog teams are trained to locate Tiger Quoll scat with a group of teams established to increase the area to be surveyed. Dogs are trained to work silently, ignore wildlife and perform passive alerts on scat. Once a dog team alerts, researchers conduct DNA analysis to confirm species identification and gain insights into the Tiger Quoll population.

Outcomes: Standards and assessments have been developed to assess each team’s ability to (1) accurately identify and alert on the target scent, (2) demonstrate control and obedience and (3) work effectively and efficiently to conduct surveys. Ten teams have engaged with the training program and one round of assessments has been conducted for each aspect of ability. To date: five teams have been assessed as competent in detection of the target scent and effectively alerting their handlers allowing scat samples to be assessed; six teams have demonstrated effective
control and obedience; and three teams have achieved competency in field surveys and are now deployable across public and private land.

Challenges: A major challenge encountered during the training process was working with volunteers at varying levels of experience in dog training, with none in detection. It required the development of tailored training programs to suit the strengths and weaknesses of individual teams that fit into their schedules. This meant significant development time in order to train both handlers as well as their dogs before teams were ready for deployment. In the long term, however, this challenge has been offset by volunteers burdening the cost of the animal welfare needs (such as housing, food, veterinary, and retirement needs) leading to the sustainability of the program.

NOTES
Characterising Dogmanship

Elyssa Payne*, Paul McGreevy, Pauleen Bennett
Faculty of Veterinary Science, University of Sydney, Australia

Despite a wealth of free information on dog behaviour and training, there is little information on the behavioural attributes of those who expertly care for and train dogs. To our knowledge, no objective data exist on the skills these individuals require. Although there are many outstanding dog handlers, good results in practice can remain elusive. Therefore, there is a knowledge gap in what defines the great ‘dogmanship’ among expert handlers and trainers and how best to translate this into actions for novices. What is required is the identification of human behaviours and personality attributes that advance human-dog communication. This is the first part of a three year project, seeking to identify the human attributes that best motivate dogs during training and in human-dog relationships more generally. Ideally, this will optimise matching of owners and dogs to maximise dog performance and the quality of the human-dog bond.

Based on recent scientific interest in the influence of arousal and affective states on animal training, a preliminary list of human attributes that influence the human-animal bond has been identified. These behaviours can differ in relevance depending on whether the individual in question has a caring or training role with the animal. That said, synergistic effects are possible if a single human fulfils both roles. Tailoring human behaviours to maximise the human-animal bond should theoretically enhance dog performance in a working role.
The examination of dog-human dyads through questionnaires and video analysis may reveal which aspects of human behaviour contribute most strongly to partnerships’ success. This approach should offer significant animal welfare benefits.
Racing to Retirement, is there a better way?

Karen Cunnington  
GreyCare, Australia

The industry funded greyhound adoption program (GAP) model was implemented relatively recently, given the inception of greyhound racing in Australia almost 100 years ago. Arguably as the industry’s major animal welfare initiative, it is failing to keep up with community expectations regarding indiscriminate over-breeding in the pursuit of speed.

As former GAP Veterinarian and current operator of The Greyhound Rehoming Centre, a non industry funded rehoming group, Dr Karen Cunnington has firsthand insight into the challenges faced by those tasked with re-homing ex racing greyhounds. Numbers aside, the widespread use of outdated husbandry techniques continues to impact seriously on the ability to find a home for greyhounds at retirement.

Statistics obtained from the Greyhound Australasia’s website indicate that an average 3,300 litters are registered annually in Australia, with approximately 13,300 named. At a conservative estimate of 6 puppies per litter, this equates to 6,500 puppies unaccounted for annually. Furthermore, less than 1,000 of those dogs named for racing pass through industry funded adoption programs annually, leaving 18,500 greyhounds per year superfluous to requirements. With these figures in mind, a review of the structure, function and above all the objectives of the industry funded adoption program model are timely, particularly with regards to efficiency and productivity.

This presentation aims to address how available funding should be used more efficiently, and suggests that a thorough review of the accepted rearing, breaking, handling and housing techniques would greatly improve
the success of greyhound adoption programs and ultimately work towards reducing the currently unacceptable levels of wastage.
PRESENTATION SUMMARY

Research collaborations to optimise performance – lessons from Australia’s leading (human) athletes

David Pyne* and Naroa Etxebarria
Performance Research, Australian Institute of Sports, Australia

There are presumably many parallels in everyday management and research approaches between Australia’s leading working dogs and human athletes. Everyday management of Australia’s elite athletes in a multitude of sports is based on a combination of hard-earned practical experience and evidence-based scientific and medical support. Research with athletes is typically a collaborative effort between private practitioners (athletes and coaches), sporting organisations, the university sector, state and federal government agencies (such as the Australian Institute of Sport), and private enterprise.

Research settings include the laboratory for a higher degree of experimental control, the training venues where athletes spend substantial time preparing at home, interstate or overseas, and competition where observational research can be informative. Sports industry and scientific researchers work together to optimise athlete health, well-being and performance in a wide range of areas. These include: coaching, technology, psychology, talent identification, injury management and prevention, nutrition, fitness training, and skills.

Key features of the research collaborations include joint identification of industry requirements and research questions, multi-disciplinary approaches where appropriate, project management, quality assurance, co-investment from interested parties, involvement of international researchers, transfer and distribution of research outcomes, and impact.
monitoring of the value of research to practitioners in the industry and field. Ultimately the collective research approach must focus on the performance needs and welfare of athletes in the high-pressure competitive environment – presumably the same challenge for working dogs.

NOTES
The five freedoms and beyond, for working and sporting dogs

Jade Norris, RSPCA Australia, Australia

This presentation will discuss the Five Freedoms for Animals and Quality of life in the context of working and sporting dogs. The presentation will include discussion of new and emerging concepts in animal welfare such as positive affective states, ‘a good life’ and ‘a life worth living’, concepts that go beyond the Five Freedoms.
PRESENTATION SUMMARY

Dog Training, the relationship to breeding and working dog behaviour: developing breeds based on performance

Kris Kotsopoulou, Von Forrell Australia, Australia

Appropriate genetic selection is critical when breeding working dogs who will exhibit quality behavioural responses. Unfortunately, many dog breeders are producing dogs who display maladaptive behaviours. Potential measures can be undertaken to improve the current global situation by relevant groups uniting to provide solutions not only for the working dog sector, but the greater dog community. I have been involved in selecting, training and breeding working dogs for over 33 years. I am convinced that appropriate selection of relevant traits is absolutely critical in achieving open and uncomplicated behaviour. This also ensures the development of a breed based on performance. It is of extreme importance because the dog’s behaviour in response to training is not only related to the training system utilised but also directly proportional to the genetic makeup of the animal.

It is important to remember not to place more or less emphasis on the influence of the environment, experience or underlying genetics. Each factor is of equal importance. The challenge we face is that we need to narrow down the selection criteria and seek quality behaviour that accurately determines desirable behavioural responses in our given application. These behaviours may differ depending on the dog’s required role. A national testing system which exposes the desirable and undesirable traits will be of benefit. As a result, we will be able to select and breed dogs which exhibit predictable performance related behaviours.
Centre for service and working dog health - working hard for dogs that work for us

Naomi Cogger*, Kate Hill, Nick Cave, Andrew Worth, Boyd Jones
Centre for Service & Working Dog Health, Massey University, New Zealand

In 2008 the Centre for Service and Working Dog Health was established at Massey University, New Zealand to advance the health and welfare of service and (farm) working dogs. To achieve this goal the Centre has drawn together a group of researchers from medicine, surgery, epidemiology, behaviour, legislation and welfare.

To date the Centre’s activities include research, a working dog focus group and a liaison role (with Massey University) to the service dog groups. The Centre has so far completed three cross sectional studies to describe the:

1. Key features of the working dog population, description of husbandry practises, and prevalence of health problems;
2. Prevalence of parasitism and chorioretinopathy in working dogs;

This presentation will focus on the results of these three studies and provide an overview of other ongoing activities.
Cognitive biases refer to an individual's tendency to respond to stimuli in a biased way depending on their current emotional state. Increasing evidence supports cognitive bias in animals to be an objective indicator of an animal's positive and negative emotional state. A fully automated apparatus has been developed for testing cognitive bias in dogs. Results provide an insight into an individual's personality, which may be useful in selecting individuals for working roles. Results may also aid in assessing emotional states for training purposes. Dog training relies heavily on an understanding of dog behaviour as it relates to operant conditioning. Cognitive bias studies show that emotional state, like arousal, may affect behaviour, which may also impact how dogs respond to training. But it can be difficult to account for such influences while simultaneously assessing behaviour from an operant conditioning perspective.

Response landscapes are conceptual, three-dimensional graphs aimed at offering a way to visualise the likely effects of arousal, emotional state, and operant conditioning on training outcomes. The graphs highlight the flexibility available for improving training, and the likely need for different approaches to suit dogs in different emotional states and at various levels of arousal.

These graphs are theoretical only, but in future, results from cognitive bias studies could be used to populate the landscapes with data. In the
meantime, they may aid trainers in taking a bottom-up approach to training, first concentrating on emotional state and the arousal level most suited to the task that is to be trained and performed.
No problem!

*Steven White*

*ProActive K9, United States of America*

In this session you'll learn a simple, self-adjusting, five-step problem-solving model that works every time.

You’ll learn more about:

- Avoiding the three most common mistakes trainers make when solving behaviour or performance problems
- Control problem-behaviour triggers four ways, and why you should
- Transition seamlessly from problem-solving into skill-building without skipping a beat.

The icing on the cake is that once you internalize this model the process becomes as comfortable and natural as breathing - and problems seem to disappear.
Separation-related distress is a common behavioural disorder affecting an estimated 14 to 29% of companion dogs, although the prevalence amongst working dogs is unclear. Behavioural issues are the primary reason cited for rejection of guide dogs and co-morbidity between different anxiety disorders is common. While current research has concentrated on identifying the environmental risk factors of anxiety disorders, little is known about genetic contributions. This project aims to use genome-wide association analysis to identify loci predisposing dogs to develop separation-related distress disorder.

A validated owner-based questionnaire (CBARQ) is used to phenotype cases and controls. Although separation-related distress can affect dogs of any breed, we are initially looking at Labrador retrievers and golden retrievers. To date, questionnaires have been received for 423 dogs, including a cohort of 81 dogs belonging to Guide Dogs Victoria. Of the 342 dogs belonging to the general public, 49 dogs (14.3%) have been identified as cases, while only one case has been phenotyped in the guide dog cohort.

It is expected that inheritance of the disorder will be complex. A pilot cohort of 24 cases and 24 controls - 12 of each breed - has been genotyped. While genome-wide significance was not reached, several loci showed a high probability of association and merit further investigation.
Increasing our knowledge of the genetics underlying separation-related
distress and, therefore, the mechanisms of the disorder has the potential to
improve the quality of life of affected dogs and their relationship with their
owners. A better understanding of the development of anxiety disorders
also gives us the potential to improve success rates of guide dog
organisations.

The authors would like to acknowledge the support of Guide Dogs Victoria,
the Goldia and Susie Lesue scholarship (2010), Neil and Allie Lesue
scholarship (2011), Jean Walker Fellowship Trust (2011-13), Jessie Mary
Briggs scholarship (2012-13) and James Serpell for use of CBARQ.
Early development and conditioning for working dogs

*Boyd Hooper, Tactical and Specialist K9, Australia*

Behaviour is a combination of the genetic predisposition and thresholds, combined with the environment and learning an animal has been exposed to. Certainly some behaviour is largely hereditary and is under limited control of the environment, however the vast majority of breeders and trainers do not utilise environmental and learning processes to their full advantage. Providing the correct environments and a customised puppy and young dog development program that continually assesses the dogs performance (strengths, weaknesses, thresholds), can make a dog with poor genetics a good dog, and a dog with good genetics into a great dog.

Based on over 30 years of international experience in training, raising and breeding working dogs, the importance of pup and young dog development, as well as specific protocols used in habituating the dogs to specific environmental conditions (arson environments, gunfire, confined spaces, rescue harnesses, tactical scenarios etc) will be discussed. In addition there will be information on producing a training and development plan for the pup/young dog to develop the specific skill sets and competencies required for their future roles and tasks. The presentation will include findings from several studies and the experience of a number of international breeders, trainers and experts on behaviour, supported by video footage of the conditioning /development program and the results these programs produce.

The focus will be on Law Enforcement, Military, Rescue and Scent Detection roles, however the principles will be relevant to virtually any working/service dog application.
The working dog world is surrounding in great personal expertise, but also very strong and conflicting opinions as to best practice. In order to optimise working dog ability, it is important that we monitor day to day performance and investigate analytically, those factors which may impact upon this. To do so we need to valid and reliable ways of recording dog’s day to day performance, which take into account the numerous different aspects of performance which are important to individual working dog roles. I will describe the rigorous scientific process we employed to derive performance measures for search dogs, both during day to day work tasks and during controlled training and calibration searches.

I will describe a range of studies exploring the challenges of handlers rating their own dog’s performance and behaviour, the inherent biases and how they can be overcome via training.

I will then describe how measures can be adapted to measure team, and handler performance and once we have meaningful measures, how we can investigate those factors which most affect this. I will use examples from our own work on explosives search dog and more recently on hypoglycaemia alert dogs.
Risk factors associated with loss of working farm dogs in New Zealand

Naomi Cogger*, Amy Jerram and Helen Sheard
Massey University, New Zealand

In 2008-09 a study was undertaken to determine key features of the working farm dog population in New Zealand. One researcher visited 118 sheep and beef farms in NZ to collect demographic, husbandry and health information for all working dogs on the farm at the time of the visit or that had been on the farm in previous 12 months. One thousand and twenty-four dogs were enrolled in the study: 78% were alive on the farm at the time of visit; a further 7% had been sold or given away and 14% had been euthanized or died in the preceding 12 months.

The study found that the risk of death was highest in dogs less than two years of age and dogs greater than seven years of age. Owners report that 52% of dogs experienced an adverse health event that could not be attributed to trauma. Furthermore, dogs experiencing adverse health events 1.34 times more likely to be dead at the time of the visit than those that did not experience a health event in the preceding 12 months. The breed of the dog, sex, neuter status and topography of the farm were not significantly associated with death. Further analysis of this data will focus on determining the prevalence and impact of owner reported health events because this information can be used to determine which health events should be prioritised for future studies.
Recognising anxiety in working dogs – impact on dog and handler

*Kersti Seksel* and *Caroline Perrin*
*Sydney Animal Behaviour Service, Australia*

This presentation will focus on neonatology and cover the importance of breeding from the right individuals, early recognition of anxiety and intervention strategies, and the impact that this has on the dog and the handler. What happens from the time of conception in the womb to 12 weeks of age affects the way the puppy develops not only physically but also mentally. The period is characterised by intense development and change within the central nervous system.

Early experiences affect the animal's resiliency or coping capacity. The ability to cope with life's stressors varies with genetic predisposition, learning from previous experiences and the current environment. Early identification of individuals who are not developing resilience allows early interventions to be implemented. Early intervention can alter brain development. Interventions may take the form of environmental management, behaviour modification and medication.

Environmental management involves creating a complex but stable and predictable environment for the puppy. Interaction with complex environments results in denser brain development. A stable environment allows the puppy to develop rules or expectations for the outcomes of interactions and so develop coping strategies. Behaviour modification helps shape acceptable and desirable behaviour. More importantly, behaviour modification encourages and rewards calm, quiet behaviour and relaxation. This way the puppy learns coping strategies. Medication can be
used to normalise brain neurotransmitter function and also to maximise neuronal connections through the release of brain neurotrophic factor.

New connections are encouraged along desirable pathways. Appropriate early interventions can affect brain development, thus helping more normal growth and behaviour to occur.
The role of stress in learning

Caroline Perrin* and Kersti Seksel
Sydney Animal Behaviour Service, Australia

Background: Neuroplasticity refers to the changes in the neural pathways and connections between neurons that occur in response to learning, the environment and structural damage to the brain. Stress refers to the physiological responses that occur in the body such as cortisol release from the Hypothalamic-Pituitary-Adrenal (HPA) axis in response to changes in the environment.

Main content: Working dogs need to be able think, remember and learn new information effectively in a variety of environments. Some of these environments may be stressful and cause a release of neurochemicals such as cortisol and noradrenaline. These neurochemicals have wide ranging effects on neuroplasticity and hence effect learning. Excessive stress impairs learning new behaviours. In addition, there are various behavioural indicators that can help us recognise stress in dogs, modify the learning environment and hence improve learning outcomes.

Summary: Not all stress is bad, however excessive stress impairs learning. Recognising the behavioural signs of stress and reducing stress will increase learning.
PRESENTATION SUMMARY

Giving working dogs a new (working!) start

Carey Edwards
Australian Working Dog Rescue, Australia

Presentation includes a summary of where rescue comes into play with saving lives, how it all works, from selection of dogs, dealing with council in a professional manner as opposed to appealing based on emotion, the numbers killed each year in pounds and shelters, quarantine and husbandry, through to behaviour testing (initial testing can lead to more specific testing by relative industries, being those people who take the dogs in to train them specifically for a working life on the land [farm dogs] - many of the people doing this testing and training are noted working dog professionals or government agency representatives), and finding suitable new homes that meet the needs of the dogs and the new working placement or family they go to.

This presentation will outline all aspects of rescue and why it is required. Presentation will emphasise how great dogs can be found that were deemed unsuitable for being part of one area of human life, and can then become invaluable members of working society.
Can models be used successfully to mimic the real thing to prevent canine predation of an endangered species?

Arnja Dale\(^{ab}\ast\), Christopher Podlesnik\(^b\), Douglas Elliffe\(^b\)

\(^a\) Animal Welfare Group, Unitec Institute of Technology, NZ
\(^b\) School of Psychology, University of Auckland, New Zealand

Dogs pose a significant threat to kiwi (Apteryx spp.) through predation. In an attempt to balance kiwi conservation and the need for dogs to be used for hunting purposes in kiwi habitat, the New Zealand Department of Conservation developed the Kiwi Aversion Training (KAT) programme. KAT is a canine aversion training programme which uses models rather than using live kiwi which aims to stop dogs killing kiwi. ‘Kiwi-safe’ permits are issued after a short training session where dogs receive a brief period (0.5-1.5s) of aversive electrical stimulation from an electric shock collar when interest is displayed towards the kiwi models.

Despite models being commonly used when training and assessing animals, for example in canine temperament testing, in predator awareness training and for prey aversion training; there has been no systematic evaluation about their effectiveness. This research investigates whether models mimic the real thing using the KAT protocol and then presenting the dogs with a live bird one month later. Chickens were used rather than kiwi due to their widespread availability. 84 dogs were trained to avoid a chicken model and then presented with a live chicken one month later at a novel location with novel dog handlers. There were five chicken models used and dogs were randomly allocated in to one of seven treatment groups: (1) dead chicken; (2) stuffed chicken; (3) chicken faecal material; (4) chicken nesting material; (5) wooden cut-out chicken; (6) all
chicken models together; (7) a live chicken. These models were selected for investigation because they comprise the range of the training stimuli used by the various trainers in the KAT programme, but with kiwi equivalents (Groups 1-6 only).

Behaviours towards the live chicken were quantified, as was the time and distance taken to detect the chicken when it was presented. The majority of the test dogs did not generalise from the chicken models to the live chicken potentially indicating that some of the models did not mimic the real thing and were not ecologically significant to the dogs. It is recommended that the use of models is questionable for one-off aversion training sessions, and needs further study.
PRESENTATION SUMMARY

Therapy dogs: companion dogs who work

Gaille Perry
Delta Society, Australia

Dogs are increasingly being used to provide interaction, support and comfort for people in a variety of institutions, including hospitals, nursing homes and hospices. More recently, they have been incorporated into reading assistance programs for children experiencing reading and writing difficulties. Despite the profusion of programs, there have been little data to support their success beyond anecdotal.

There has been even less focus on the needs of the dogs who provide this service. In well-conducted programs, dogs and owners undergo a rigorous assessment procedure before entry and owners receive training to assist them to understand the needs of their dogs and the people they visit. Dogs are usually “working” for 60-90 minutes once per week. It is difficult however for owners to balance the needs of their dogs with their perceived responsibility to those they are visiting. Even with training, owners may not recognize and act on displacement behaviours or other possible stress signals exhibited by their dogs.

Research is required to assess dogs’ stress levels during visits and the information obtained can then be used to modify selection procedures and training to prepare owners for the program they are entering.
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ABOUT THE
AUSTRALIAN WORKING DOG ALLIANCE

The Working Dog Alliance is committed to optimising the wellbeing and performance of all working and sporting dogs in Australia. Why? Because across the working and sporting dog industries, a 50-70% fail rate is normal… and it doesn't have to be. The welfare of these dogs is intimately linked to their working performance.

The Working Dog Alliance is working with industry, government, animal advocacy and scientific research groups to review current practices. We aim to provide opportunities for communication, sharing and collaboration across this diverse industry. We're here to improve the lives of our working dogs and as a result, get more from our canine counterparts.

A registered non-profit organisation, our mission is to engage and unite the Australian working and sporting dog industry to advance the welfare and productivity of Australia’s iconic working dogs. We do this by providing our network of participants with opportunities to share ideas. We create an environment in which people can work together to improve working dog welfare, in turn optimising working dog performance and providing new opportunities for professional development in the working dog industry. We are here to work with all stakeholders in Australia’s diverse working dog industry.

More information on our website: www.workingdogalliance.com.au