

THE WINSTON CHURCHILL MEMORIAL TRUST OF AUSTRALIA

Report by – Anthony Hatch - 2009 Churchill Fellow

To investigate and disseminate world's best practices in Technical Large Animal Emergency Rescue (TLAER) techniques

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Signed: Anthony Hatch

Dated:

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Introduction

Technical Large Animal Emergency Rescue (TLAER) is a topic that has not been formally addressed within Australian Emergency Services until now. The identification of the economic and emotional impact that arises from the loss of large animals prompted me to investigate the rescue techniques, equipment and systems utilised in countries famed for their TLAER programmes. My Churchill Fellowship took me to the USA and the United Kingdom where I trained for three months in order to identify the ways in which these invaluable resources can be implemented within the Australian Emergency Services.

TLAER is normally undertaken in Australia by well-meaning rescuers working with limited equipment and training. Unfortunately, this approach has led to a number of rescuers and animals being injured, with several incidents proving fatal for the animals as a result of misguided actions by the rescuers. My concern is that, without formal and effective training, a member of the Emergency Services could suffer a fatal injury whilst undertaking a TLAER.

It is not only the Emergency Services that are affected by the loss of large animals. Some prize racehorses can cost over one million dollars; likewise, the emotional value of a companion animal is immeasurable.

This report provides a detailed summary of my trip, conclusions and recommendations that I believe will ensure safe and effective management and rescue of large animals within Australia.

Acknowledgements

Thank you to a very close friend, Colin Malone, who convinced me to apply for this fellowship. His phrase, "Don't complain about a problem, fix it" rings in my head constantly and without his encouragement I would never have undertaken the project. A big thank you must go to Monica Daley who assisted me in writing my initial application, preparing for the interviews and continually reassuring me that I could achieve this project.

Thank you to the former Deputy Director General of the NSW State Emergency Service, the late Greg Slater, who passed away before seeing the completion of my fellowship. Greg saw the necessity for training in animal rescue within Australia and had discussed the matter with me many times both in person and over the phone. Greg acted as my project referee and supported me during the application process.

I would like to thank the Commissioner of the NSW Fire Brigades Greg Mullins, who has known me throughout my Brigade career. Without his support and acting as my Personal referee, I am sure I would not have achieved this prestigious award.

Thank you to the many Firefighters and Rescue Operators I have worked alongside who managed to get kicked, bitten, trodden on or scratched by large animals, you guys truly encouraged me to search for a better and safer way of doing business. To Sonya Hatch (my wife and Emergency Service colleague) who took many of the photos at rescue incidents that helped convince others that this research was necessary. Thank you to Dave King from the NSW SES who has worked tirelessly to ensure that the TLAER vision was a priority within the organisation.

I sincerely thank Veterinarian Derek Major of the Agnes Banks Equine Clinic who has been devoted to developing training for the Emergency Services in Australia. Derek has taught me so much in relation to animal behaviour, anatomy and veterinary procedures during animal rescue operations.

The people I met during my fellowship - I will cherish your friendship for ever.

John and Deb Fox from the Large Animal Rescue Company who treated me like a member of their family and welcomed me into their home. Thanks to them I can now use almost any piece of equipment from a truck to rescue an animal.

Thank you to all of the staff at the San Diego Zoo and Wild Animal Park for keeping me safe while learning about every possible animal on the planet that could eat me.

Tomas & Rebecca Gimenez from Technical Large Animal Emergency Rescue - thank you for the training in rescue, horsemanship and American culture.

Thank you to Jim Green and his team of animal rescue specialists from Hampshire Fire & Rescue Service. The time I spent both training and responding to incidents with them has enhanced my experience within this field immensely. A special thank you must go to Jim and his wife Natasha for their hospitality during my stay in England.

I would like to thank the Winston Churchill Memorial Trust and panel members for giving me the opportunity to study Technical Large Animal Emergency Rescue. I bring home to Australia my experiences and learning with a vision of implementing these throughout the Emergency Services and large animal community as a whole.

Finally, I would like to thank my parents, Bob and Ella Hatch, for their ongoing support throughout my life, and for constantly encouraging me to strive for the best in all that I do.

Executive Summary

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Project Description: Technical Large Animal Emergency Rescue

Highlights of my fellowship study trip

- Undertook training and received a formal qualification from Large animal Rescue Company under the instruction of John & Deb Fox
- Studied exotic animal handling at San Diego Zoo & Wild Animal Park
- Received a formal TLAER Operators qualification while training under Tomas & Rebecca Gimenez
- Qualified in Hampshire Fire & Rescue Animal Rescue (AR1, AR2, AR3) & Rescue and Emergency Medicine Training For Equine Vets courses
- Worked alongside Animal Rescue Specialist Jim Green from Hampshire Fire & Rescue Service responding to numerous Animal Rescues
- Assisted teaching veterinarians at Cambridge University

Major lessons,

My study trip has identified that the following major lessons are critical to safe and effective Technical Large Animal Emergency Rescue:

- The use of an Incident Control System
- Early response of trained and well equipped emergency service personnel to minimises the risk of injury to both the animal and all people involved
- Specialist teams of highly trained and well equipped emergency service personnel to respond to large animals rescues in high risk environments such as floods and fires
- Formal and nationally consistent training
- Education of other professionals such as veterinarians and owners
- Use of both simulated animals (mannequins) and specially trained live animals
- The establishment of professional relationships and networks between emergency services, veterinarians, large animal educational institutions and large animal industry

Dissemination and implementation

- This report will be forwarded to Emergency Management Australia, NSW Fire Brigades & NSW State Emergency Service.
- Formal presentations will be made to NSW Fire Brigades & NSW State Emergency Service and other interested parties including Veterinarian Associations.
- This report will be utilised by NSW State Emergency Services Technical Large Animal Emergency Rescue working group to further develop capability

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Programme

Between the dates of 26 April and 18 July 2010 I travelled to the following locations:

29 April – 5 May Felton California USA

Large Animal Rescue Company
John and Deb Fox

San Juan Bautista Fire Dept.

7 May – 12 May San Diego USA

San Diego Zoo
Andy Blue / Curby Simerson

14 May – 26 May Middleburg Virginia USA

Virginia Tech University MARE Centre
Thomas and Rebecca Gimenez

1 June – 17 July Hampshire United Kingdom

Lyndhurst Fire Station
Jim Green

Sparsholt College
Jim Green

Royal VET College
Jim Green

Main Body



Large Animal Rescue Company

Introduction

Large Animal Rescue Company is a group of concerned Firefighters and horse owners who live in the Santa Cruz Mountains where the dramatic terrain offers up unique challenges to technical large animal emergency rescue (TLAER).

Over the years they noticed that with the growing interface between rural and urban environments, there has been an increase in the number of incidents involving horses and other large animals. Determined to train their department in how to handle the incidents in their district, John & Deb looked all over the country and all over the world for training. Some of the agencies and people they have worked closely with include:

- Charles Anderson of CDA Products who developed the Anderson sling which is used around the world for lifting animals with helicopters and the Large Animal Rescue Glide which I have already arranged for purchase by the NSW State Emergency Service in Australia and is currently being trialled and evaluated at this time by the Hawkesbury SES.
- Tomas Gimenez, MVZ, Dr,Med. Vet. of Clemson University and Rebecca Gimenez, PhD. Of Anderson College who run a Technical Large Animal Emergency Rescue training company. Tomas and Rebecca's veterinarian knowledge and their development of a 2 strap application for short vertical lifts were of notable contribution to John & Debs Large Animal Rescue training company.
- The United Kingdom's Hampshire Fire and Rescue Service and their Animal Rescue specialists' team now lead by Jim Green, have a substantial training and reposes system which is being adopted across the United Kingdom.
- Sparsholt College Hampshire who provide Animal Handling & Awareness Course for Hampshire's Fire Brigade.

Deb and John Fox speak highly of these four organisations and as such these people and companies will feature predominantly during my Winston Churchill Fellowship research trip. The culmination of Deb and John's search resulted in large animal rescue (LAR) curriculum development that was ultimately approved and adopted by the California State Fire Marshall's State Training

and Education Advisory Committee (STEAC) and California's POST (Peace Officer's Standards and Training).

John and Deb Fox are two incredible people to whom many animals within the USA and around the world owe their lives. The passion and dedication they show in passing on their knowledge and their drive and determination to continually design and develop new techniques and equipment is an inspiration to all working in the large animal rescue field.

Over 12 years ago, with the help of numerous others including Chief Ron Richabough, they successfully started a Large Animal Rescue response program in Santa Cruz County. They developed a Large Animal Rescue (LAR) Unit within the Felton Fire Protection District that now responds to all LAR incidents within the county and surrounding counties. On average, the team responds 12 to 16 times per year.

Since retirement from Felton Fire, John and Deb have joined the San Juan Bautista Fire Department in San Benito County, California. They have started a LAR Unit within the department and are currently formalising the unit's equipment cache and response. The unit had its first official rescue in January 2010 just a few months before I arrived. Lucky for him Deb & John moved to town.

John Fox, Captain FFPD Primary Instructor

Currently John Fox is the Fire Prevention Officer with the San Juan Bautista Fire Department in San Juan Bautista, California. He was a Firefighter/Engineer for 8 years and a Captain/Duty Officer with Felton Fire Protection District for over 15 years. He was a Captain with Lockheed Fire Dept. in Sunnyvale, California for over 3 years until closure of the department. Currently he is a Senior Investigator/Peace Officer for the California State Department of Public Health.

An avid horseman, John established the Felton Fire Dept. LAR Unit that responds mutual aid throughout central California. Currently John and Deb are the lead for the newly formed Large Animal Rescue Unit with the San Juan Bautista Fire Department. His analytical mind continues to resolve the many challenges of LAR incidents to build routine responses to highly volatile situations. He is the primary developer of LAR-Operations, approved by California State Fire Training and POST and is a CA State Fire Instructor 1.

Deb Fox, FF2/EMT FFPD Primary Instructor

Deb is a Firefighter II/ EMT with the San Juan Bautista Fire Department. She is also a lead for the departments Large Animal Rescue Unit. Deb was a Firefighter II/EMT and lead for the Large Animal Rescue Unit with the Felton Fire Protection District for 9 years.

A horsewoman with over 20 years' experience, she is a lead in the LAR Unit with 12 years of LAR experience. With a passion for horses, Deb continues to develop and apply an understanding of horse behaviour and characteristics to on-scene handling and safety. Deb is a California State Fire Instructor 1 and was a developer of LAR-Operations.

Equipment

By combining the work of these experts with experts from their fire service, John & Deb were able to develop practical LAR techniques. Their skill in taking standard equipment, available on almost every fire engine in the country, and adapting it to LAR incidents ensured that with training, any rescue or engine company is capable of successfully dealing with most TLAER incidents.

This approach will prove valuable in Australia where large organisations such as the State Emergency Services and Fire brigades in each State have hundreds of units. It would prove difficult and expensive to equip each rescue vehicle with specialised animal rescue equipment.

I had the opportunity to use some of the equipment that John & Deb recommend including the following:

Jump Bag or First-In Bag

After many years of doing rescues John & Deb have developed what they refer to as a "Jump Bag" or "First-In Bag" that has enough equipment to perform simple rescues, minor treatments of injuries, and most importantly, stabilize the situation until the full complement of equipment and rescuers can get to the scene.

Upon arrival at the scene of a rescue, the first two rescuers grab the bag, approach the animal, size up the situation, order equipment, and then, stabilize the situation. Having the whole rescue team approach the animal only increases its anxiety and instinct to thrash around trying to escape.

The jump bag is a backpack, because they may have to hike for a considerable distance to access an animal.

The bag consists of the following equipment:

- 1 x Rescue Strap - either 12 feet or 18 feet (3.6m or 5.4m) wide winch extension strap will work
- 1 x vertical lift strap - 50mm or 76mm) two-ply webbing (18.3m) long, fire hose works well
- 1" (25mm) webbing – 2 pieces 25' (7.6m) Black, 2 pieces 15'(4.6m)Blue, 2 pieces 5'(1.5m)Green
- 11mm rope – 3 x 30'(9m) long and 1 x 50 to 75 (15m-20m) long
- 6 x Large D Carabineers
- 4 x 11mm single Pulleys

- 1 x Gathering Ring
- 2 x Prusiks Loop sets
- 1 x Duct Tape roll
- Bailing twine – two or three lengths

Keep the following in zip-lock bags to keep them dry:

- 1 x small towel
- 2 x Rolls Vet Wrap – 3" (7.6cm)
- 8 x Sterile gauze pads 10cmx10cm
- 20 x non-sterile gauze pads
- 2 x rolls non sterile gauze

In addition to a Jump Bag, John & Deb recommend other a range of specialist and non-specialist equipment that be made from equipment already carried on a fire appliance, made in a workshop or purchased. Some of this equipment includes:

Straps

- At least 2 x rescue straps, 2-ply web, 4" x 18 feet (5.4m) long with large (20 to 30 cm) flat loops on each end.

Webbing

- 1" (2.54cm) web, several lengths 20' (7m) to 25' (7.6m) long, also several shorter lengths 6, 10, and 15 feet

Rescue Glide

- With slip sheet (preferably two slip sheets)
- 2 x lengths of 2" (50mm) web (single ply) 35' (10m) long

Head Protectors

- Shanks Veterinary Supply
- An old Life jacket or blanket for head protection also works.

Generator

- 1 x Portable 1000 or 2000 watt, preferably a Honda silent for weight and quiet operation

Lights

- 2 X 300 watt, with extension cords.

Rope Systems

- Pre-constructed 4:1, 3:1 and 2:1 systems made with 16mm rescue rope, heavy duty carabiners, gathering plates, Tandem prusiks.
- 1 x Anchor/haul rope 100m long

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- Several lengths of softer, flexible rope (25 – 30 feet)
- 2 x lengths of soft kernmantle rope (8-10 m long) to be used for long lead lines
- 6 x cargo straps (2" wide, 3-4 m long with flat loops on each end)these are used to wrap anchors to connect rope systems, also used for trailer upright, and lower
- 4 x additional pullies 10 x carabiners 6 x tandum prusil sets
- Throw line

Hook & crooks

- 1 x pike pole
- 1 x Telescopic boat hook
- 2 x snake tongs or animal grabbers
- 2 x J hooks (see below)

Miscellaneous

- Earplugs (stuff nylon stockings with cotton balls), blind fold (fly mask with towel insert), hobbles (preferably with quick release), various halters,

Medical bag

- Oxygen
- Bandages, tape, vet wrap,. Include medical supplies for the animal and the rescuers.
- Stethoscope, BP cuff for taking vitals
- blankets, saddle blankets

Equipment for trailer manipulation

- Four 2" webbing, 25` (8 m) long with flat loops on each end
- heavy-duty rescue friction device or a brake rack
- Tirfor winch

There are many other pieces of equipment that can be used by adapting existing equipment from a rescue vehicle.

Emergency rope halter

One of the most important things during a rescue is to have control of the animal. Even if the horse has a leather bridle on, it isn't appropriate for controlling the horse and can brake if force is applied.

A quick and effective method when there are no halters nearby is to use a long, soft rope, make a loop at one end and put this end over the horse's head, up behind his ears. The loop should hang down far enough that it will end up centred under the horse's face. Taking the standing section of the rope, push it through the loop to form another loop, and put this loop over the horse's nose. Tighten **gently** so that the first loop is centred under the horse's face and the second loop is below his cheekbones.

Vertical Lift Tie

This is a technique that was developed by Dr. Dey, it allows a practical means of lifting a horse a short distance when the rescue team doesn't have access to specialist lifting slings.

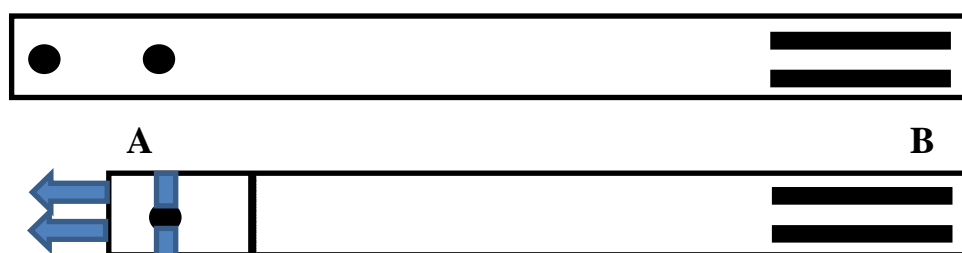
It is simply a piece of fire hose that is made into a full body harness for a horse, the harness captures each quarter of the animal and lifts it from the centre of gravity.



Vertical Lift Tie

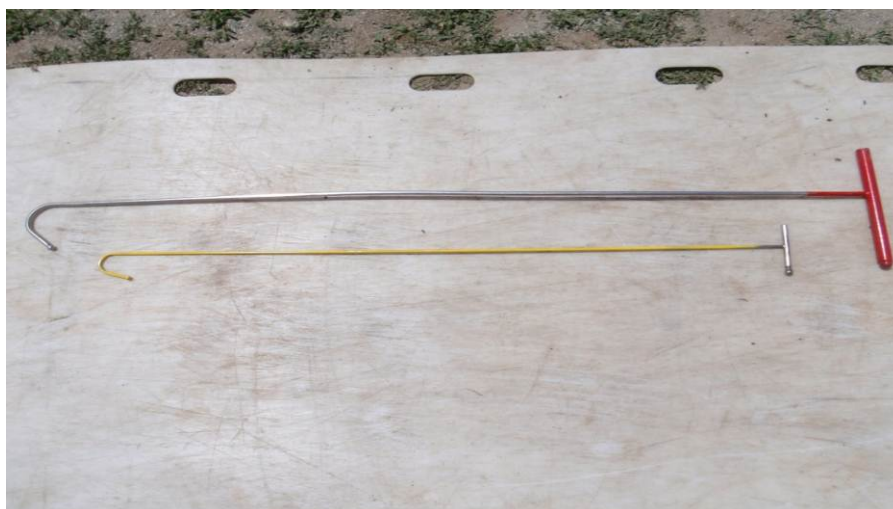
Fire hose rescue straps

One of the most innovative ideas I came across during my 3 month trip was the adaptation of a 70mm fire hose onto a rescue strap. It has two holes at one end (A) that when folded on top of each other allow for a 25mm looped sling made from tube tape to be larks headed around the hose creating an attachment point for a hauling rope, this tube tape also acts as a cutaway in an emergency. At the opposite end (B) there are two parallel slots that allow end (A) to be passed through thereby forming a loop with the hose that can be used as a sling.



Jay hooks

Are made from stainless steel rod and come in 2 sizes they are used for sliding under an animal that is lying down in order to pull the rescue straps under the body without the rescuer entering a kicking zone. The small one is made from 7mm rod and is 1m long while the larger one is 10 mm rod and 1.2m long. They have a ball bearing welded to the hook to protect the animal and a corresponding ball bearing welded to the handle so the rescuer can determine which way the hook is facing when it is out of sight under an animal. I found them to be a very useful tool during any rescues situation. Painting the hooks bright yellow assists in locating them during night operations.



Lunge whip

Deb Fox came up with the idea of using a lunge whip in a similar way to the J hooks. That can be found in most stables or horse floats and are very cheap to buy. An added advantage I found while using it was that if you pull on the whip you can make the tip or the pole bend around object, this was very useful when working on animals in horse floats.

Some of the equipment that is available for purchase from various companies includes the following.

Rescue Glide & slip sheets

http://www.andersonsling.com/rescue_equipment.html

The rescue glide is a large piece of hard PVC that acts as a stretcher that can be used to drag a horse along the ground. John and Deb use a rescue glide from CDA Products it is similar to the one that the NSW SES has already purchased, although considerably cheaper.

During the course I had the opportunity to work alongside Jerry Floyd, Vice President of CDA Products. Jerry was a valuable source of information and was genuinely interested in seeking feedback from the end users in order to improve all of the products in CDA`s range. One of the issues John & Deb had is the slipping of the ratchet straps that attach the horse to the glide. To overcome this they use either a 12m tube tape for lashing or the rescue net that Jerry has developed (*see pictures below*).

Rescue Net

This is a multipurpose tarp also made by CDA Products and can be used in a verity of ways. It can be used as a horse lifting sling of three different sizes 122cm, 137cm, 157cm. It can also be used as an equipment carry sheet by placing 2 pike poles through the handles. Deb Fox has designed a way of attaching the rescue net to a rescue glide to ensure there is no slipping of a horse when hauling up a steep embankment, this worked extremely well during my course and should be considered during any steep slope evacuation with the glide.



A horse secured to a Rescue Glide with the Rescue Net

Anderson sling

http://www.andersonsling.com/anderson_sling.html

The Anderson sling is a specific piece of equipment used for lifting an animal of extended periods of time. It was originally designed for suspending horse recovering from operations. It has been adopted by rescue teams across the world as one of the best pieces of equipment for lifting a horse with a helicopter. The helicopter lift is usually a last resort but with a veterinarian on hand for sedation and a well-trained Animal Rescue Team who are efficient in the slings use, it can save valuable time and avoid the unnecessary danger of committing boat crews to rescue animals from rising flood waters during emergencies. Although the Anderson Sling looks complicated to apply I explained to Jerry Floyd the Vice President of CDA Products that a colour system would make it easier to apply and as a result the new model sling is now colour coded.



Horse being lifted in an Anderson Sling

Lucky the horse manikin (see picture of vertical lift tie)

"Lucky" is a life-sized horse manikin used to safely teach hands-on training of emergency rescue techniques. "Lucky" has articulating limbs, a tail feature as an attachment point, is a realistic training weight and a height of 15 hands and It will accept standard horse harnesses, glides and gear. "Lucky" can be used in all weather, mud, water and is designed for training indoors or out in any situation a real horse might be in. The Fox's have 3-4 of these manikins and use them in the classroom, over cliffs and in overturned horse floats. There are also other products on the market and I will discuss the most suitable one for training in Australia in the recommendations section of this report. However a horse manikin whichever brand is essential for training Animal Rescue Teams.

Training Course

The Large Animal Rescue – Operational course, FSTEP (Fire Services Training and Education Program a part of California State Fire Training) was approved by STEAC (State Training and Education Advisory Committee) and has been adopted by the California State Board of Fire Services.

The course is run over 2 days and is combined with both theory and practical components along with group discussion and table top exercises where students worked in groups looking at 4 or 5 photos of an animal rescue scene and then discussed how to deal with the situation.

The participants were divided into small groups (5 people) and sent off to a number of hands on evolutions, this proved to be an extremely valuable part of the course that instilled the practical skills into the participants.

Course title: large animal rescue (LAR) Operational

COURSE OBJECTIVES:

1. To provide information about LAR as a technical rescue
2. To provide information about prey animal behaviour and characteristics
3. To provide information and training on emergency containment of large animals
4. To provide information and training on scene management and large animal operations
5. To provide information and training on horse trailers and on-road accidents
6. To provide information and training on LAR equipment and application
7. To provide information and training on rope operations and large animals
8. To provide information and training on hauling, lifting and lowering large animals
9. To provide information and training on vertical lifting operations with large animals
10. To provide information and training on water rescue with large animals

UNIT 1: INTRODUCTION TO LAR

An introduction & history of TLAER is well covered giving the students a thorough understanding of the anatomy of animals and covering the importance of personal Protective Equipment for all involved in the rescue operation. A description on horse characteristics and behaviour, flight zones and alertness signs to watch for when dealing with an animal and how to approach a horse safely were explained.

This was then followed up by practical demonstrations from an experienced horseperson, the students were then divided into small groups where they practice the fitting of halter and lead lines along with other skills such as making an emergency rope halter.

This introduction was a valuable part of the lesson considering many rescue operators attending the course may have never been near a horse before.

UNIT 2: OPERATIONS AND EQUIPMENT

This unit covers scene management and operations, which in Australia we refer to as Incident Control System (ICS). This proves vital in controlling the animal rescue scene as people tend to forget that there is a very real danger of a rescuer being injured.

There is a quick introduction into the Large Animal Rescue Equipment that will be used over the next 2 days. Then the basic operations are demonstrated this included how to apply the forward rescue strap, rear rescue strap, the vertical lift tie, and how applying them to an animal in the recumbent position.

Ropes knots and hauling systems were then brushed over as most rescuers had ample experience in this area, something we will find useful when training rescue teams in Australia.

Trailers and trailer operations are covered in detail with students walking around a number of different trailers and trucks to become familiar with both terminology and their operation.

The trailer righting is an interesting topic as it is essential to have rolled a trailer over to practice removing animals from an overturned trailer. Students then practice righting the trailer with rope hauling systems. Righting a trailer with an animal inside can be considered an option after the Incident Controller has discussed the issues of the trailers structural integrity and the animal's condition with the vet and rescue operations officer.

Water, Ice & mud Operations are discussed with a number of photos of rescues being displayed to the group for discussion.

UNIT 3: MANAGING EUTHANASIA ISSUES, CRITICAL STRESS DEBRIEFING

It is interesting to note that although most rescuers have attended numerous fatalities' they don't deal well with an animal being put down. Students are informed about the veterinarian's decision to euthanasia an unsalvageable animal before removing it. Sometimes rescuers say "we could do this" or "we should try that" but it is often better in the interest of safety to rescue operators, and in minimising suffering to the animal that it be put down before removal.

Officers of rescue teams should consider Critical Stress Debriefing after an incident if members require it.

UNIT 4: ON-ROAD EVOLUTIONS

1. Extrication of a cast horse in a trailer
2. Extrication of a horse from a rolled trailer
3. Trailer Manipulation with rope systems
4. Trailer extrication with cutting tools
5. Packaging of a horse on the Glide for transport

UNIT 5: OFF-ROAD EVOLUTIONS

1. Extrication of a horse cast in a stall
2. Extrication of a horse from a hole
3. Extrication of horse from a ditch, upside down with the head down
4. Extrication of horse from mud
5. Extrication of horse from water

Conclusion

The Fox's run an excellent course predominantly designed for emergency service personnel. Their training package has been developed in conjunction with the California Fire Service Training and Education Program and accepted by the State Board of Fire Services.

The small groups of 5 students rotating around from stand to stand allow each student to be actively involved with the scenarios rather than just watching. Their incorporation of a practical stand with a horseperson teaching flight zones, basic handling, herding & capture along with halter fitting was an extremely valuable lesson.

This component should be included in any large animal rescue training package that is developed in Australia.

Their adaptation of standard equipment found on a fire appliance is a very important aspect of their overall methodology.

I believe that we can duplicate this use of equipment in Australia especially in relation to the vertical lift tie and fire hose strap.

Research into the development of J hooks should be a priority in Australia as the use of this simple piece of equipment can significantly minimise the need for a rescuer to enter a danger zone when placing straps on an animal.

Overall John & Deb Fox should be congratulated for their efforts in developing such a comprehensive training package. Their dedication to the education of emergency service personnel worldwide is a legacy that will remain for many years to come.

San Diego Zoo

Introduction

There are a large number of Zoos and Circuses across Australia all carrying a substantial numbers of exotic animals. Many of these animals are transported between Zoos for different purposes each year. The individual Circuses companies also transport their animals from town to town across the whole of Australia.

There is a very real danger of these animal transport vehicles being involved in an accident during these movements. This would indeed lead to an extremely challenging situation for the responding emergency service personnel.

Based on this identified risk I decided to visit one of the leading Zoological establishments in the world in order to develop a better understanding of the special challenges and equipment required to deal with these situations.

During my visit I was hosted by Andrew Stallard from the Animal Park and Curby Simerson from the Zoo. They arranged for me to work with animal handlers and veterinarians in each location. This allowed me to be exposed to a wide variety of animal immobilisations and transports throughout the week.

The San Diego Zoo is a not-for-profit organization that operates the San Diego Zoo, the San Diego Zoo's Wild Animal Park, and San Diego Zoo's Institute for Conservation Research. The Zoo was founded on October 2, 1916, by Harry M. Wegeforth, M.D.

[San Diego Zoo](#)

The 100-acre (40-hectare) Zoo is home to over 4,000 rare and endangered animals representing more than 800 species and subspecies, and a prominent botanical collection with more than 700,000 exotic plants. It is located just north of downtown San Diego in Balboa Park.

[Wild Animal Park](#)

The Wild Animal Park is an expansive wildlife sanctuary that is home to more than 3,500 animals representing more than 400 species. Its renowned botanical collection represents 3,500 species and 1.5 million specimens. Over half of the Park's 1,800 acres (730 hectares) have been set aside as protected native species habitat. It is located 30 miles (48 kilometres) north of downtown San Diego in the San Pasqual Valley near Escondido, California.

Equipment

Both the Zoo and Wild Animal Park have an extensive range of equipment for dealing with different animals. Small veterinarian procedures can be conducted on site at the various animal enclosures. The Zoo has a large onsite veterinarian clinic where all of the major operations for both establishments are conducted.

If one of the larger animals needs to be taken to the clinic the animal keepers will utilise a number of pieces of equipment to assist with this process, some of this equipment includes:

Tranquilisation Dart Gun

Due the speed and flighty nature of many of the animals on exhibit it is impossible to capture them by hand; there is also an inherent danger when dealing with the larger and more aggressive animals such as lions and tigers. Therefore the use of remote chemical sedation is necessary.

The gun is used by the veterinarians to immobilise an animal at a distance. This proves to be a very safe option for the animal keepers as well as the animal its self. During this operation it is important to minimise the stress of the animal. To do this the dart gun is used from a concealed location if possible, the use of a hunters hide tent was being trialled during my visit.

Once the animal has been darted, it can take several minutes for the sedative to take effect, during this time it is important for animal handlers to ensure that the animal does not enter any dangerous areas in the enclosures such as dams or moats where it may drown.

This is technique could be considered for used during a rescue of large animals in an overturned semi-trailer where sedating the animals by conventional methods with a syringe proves to be too dangerous. Many organisations in Australia have access to dart guns, these include but are not limited to the RSPCA, Veterinarians, and Zoos.

Carry sheet

Once the animal has been sedated the keepers use a large tarp with carry handles for restrain, lifting and carrying of the animals. As can be seen in the photo a second row of handles can be used if the animal is smaller in size. Each handle is made of a (50mm) continuous loop webbing tape sewn onto the tarp. If required an overhead crane can be hooked to the handles to lift the animal a short distance, it is common for the animal to be lifted onto the operation table in the clinic with a gantry crane to reduce the risk of back injuries to the animal handlers from lifting.

Once the animal is in the tarp it can be warped up securely to prevent it from injuring people or itself. The animal handlers refer to this as a burrito wrap.



Animal Carry Sheet

Giraffe Neck Support

There are standard methods of handling a recumbent (lying down) giraffe irrespective of the drugs used. The neck of the giraffe must be extended to insure an airway, the neck is supported with the head maintained above the rumen and nose pointed down.

Supporting and positioning the neck can be aided by a long board or ladder placed under the entire length to keep it straight. The angle of the neck should be altered every 10 –15 minutes to minimize muscle spasms and myopathy.

Consideration should be given to blindfolding the animal and using earplugs. Pictured below is a device that is used at the wild animal park. As stated, emergency crews could adapt things such as mattresses and ladders which are carried on ambulances and other emergency vehicles.



Giraffe neck support

Conclusion

Both Andrew Stallard from the Animal Park and Curby Simerson from the Zoo were extremely knowledgeable and helpful during my visit, they both spent a considerable amount of time showing me the various departments within their organisations. Having worked alongside some of the most experienced animal handlers and veterinarians in the world, I was given a vast insight into the challenges that could face emergency service personnel responding to incidents involving exotic animals.

In proceeding forward with emergency service training in Australia, I believe we need to establish a close working relationship with specialist Animal Keepers and veterinarians within the Australian Zoos to assist with the project development and content.

Finding a veterinarian who can assist with a tiger and Giraffe trapped in an overturned trailer at 2am could prove difficult. Consideration should be given to the establishment of an emergency after hours contact list for both zoos and exotic animal veterinarians that could be distributed to all emergency service 000 centres across Australia.



Technical Large Animal Emergency Rescue Company

Introduction

The Technical Large Animal Emergency Rescue (TLAER) Company is run by Tomas and Rebecca Gimenez, they have established a private training company that provides TLAER training to both the general public and Emergency Responders. The target audience is those who are involved with the USAR Teams, Fire Service, Animal Control, Veterinarians, Zoo or Animal Parks, Emergency Services, Law Enforcement, Wildlife, Rescue Squads, Animal Rescue Organizations, Emergency Management, Disaster Teams, Commercial Haulers, Livestock Operations, and large animal handlers.

The training methods of this organisation are quite unique in that they have a team of trained animals including horses and llamas that are used to teach the animal rescue techniques. This gives the students an appreciation of the problems that can be encountered when working with a live animal. During the training course the animals are used in demonstrations under helicopters, tied down on Rescue Glides, lifted under A frames, they eagerly jump into the water or mud and wait to be rescued, they lay down for webbing and rope manipulations and they can even act scared while running loose for the containment portion of the training.

Tomas and Rebecca are two very unique individuals who are considered to be world leaders in TLAER; together they have trained thousands of people in this unique subject and have even written a book titled Technical Large Animal Emergency Rescue.

Rebecca holds a PhD in Animal Physiology and is a Major in the US Army Reserves. Her drive, ambition determination and volume is second to no one I have met anywhere in the world to date, and I am sure anyone who has had the pleasure of meeting her will agree. This energy undoubtable can be contributed to the 10 or more coffees she has per day, if you want to keep up with her you need to have caffeine. Tomas on the other hand is a quiet unassuming person who holds a wealth of knowledge and is always striving to learn more about this speciality field in order to educate people from all over the world.

In 1993, after seeing what happened to Georgia, South Carolina and North Carolina when hurricanes hit the state, Tomas was concerned about the minimal level of disaster preparedness of most horse and cattle owners that he knew personally. Very few took the threat seriously, and even fewer had evacuation plans for their animals and family. He decided to make a difference and set about learning as much as he could about the topic from;

Churchill Fellowship Report on Technical Large Animal Rescue – 2010

Anthony Hatch

disaster planners, responders in emergency animal rescuer field, within the USA and from across the world.

By 1995, Tomas was running small workshops and speaking about preparedness for veterinarians, plus offering some of the information that he had collected from around the world as methods for technical emergency rescue. Tomas enlisted the assistance of some of his students at Clemson to research workable, simple and reliable methods of manipulation of large animals. (A few years later, he would marry Dr. Rebecca Bott) who was interested primarily in the behavioural responses of horses and taught their famed demonstration animals to lie down, to allow themselves to be lifted, and to cooperate for many simulated rescue training events as well as research for better equipment and techniques.

In 1997, they were asked to put on a 1 day training event in Monk's Corner, South Carolina with the Charleston Area Rescue Squad, it was then that Tomas and Rebecca recognised the necessity for the fire service's involvement. The needs for this information began to drive the evolution of new ideas and procedures to intertwine with existing Incident Command System and fit with (FEMA) Federal Emergency Management America's animal rescue doctrine. Training in Technical Large Animal Emergency Rescue was born!

By 1999, when the Tomas and Rebecca travelled to California to meet Captain John and Debra Fox of Felton Fire District and the West Coast experts in Large Animal Rescue, they were convinced that reaching the emergency responders who actually answered the 911 calls and saw these incidents on a regular basis was crucial. Again it is pleasing to see that Tomas & Rebecca worked closely with Deb and John Fox from the Large Animal Rescue Company, and they speak highly of many of the techniques they learned from the Fox's. This interagency working relationship and sharing of knowledge has ensured that TLAER in the USA progressed at a rapid rate.

By 2003, they offered a 3 day course aimed at operational level for a limited number of hands-on participants, along with a number of auditors observing. Mud rescue of live horses, stabilization and righting of an overturned full size trailer, a night Search & Rescue operation capped with strapping a live (sedated) horse to a Rescue Glide, manipulation of live recumbent horses and use of a floatation device on a live animal all became an essential part of the course.

USRider a roadside breakdown assistance company for horse trailer sponsored numerous courses, training events, educational material and supporting research into TLAER via their Leg Up Fund. Veterinary schools began to ask for training for their students and faculty members, people of numerous professional disciplines (fire, heavy rescue, EMS, veterinarians, animal control, etc.) were starting to recognize this specialty area of rescue for what it was: dangerous, difficult, and challenging.

These days their TLAER training courses cover both a 2 day Awareness level course a 3 day Operations Level course and even a course on Hazmat and decontamination during emergencies. Both Tomas and Rebecca are considered leaders in this field and have travelled throughout the world teaching others and enhancing their own skills and knowledge.

Tomas Gimenez, Dr. Med. Vet

Tomas grew up in Mexico and went to veterinary school for his MVZ (Médico Veterinario Zootécnista) degree at the National University of Mexico. After vet school he worked for Syntech with his life-long mentor Dr. Wolfgang Jochle, he was then given the opportunity to attend the Royal Veterinary College in Sweden as a Fellow for a year. Immediately after, he spent 5 years in Munich, Germany at the Veterinary School and obtained a second veterinary degree (Dr. Med. Vet.) from the University of Munich. Tomas then went on to teach surgery, endocrinology subjects and reproduction at Clemson University.

His career path took an unusual track in the early 1990's when he attended a conference on large animal rescue in California where he became interested in disaster and emergency response and especially in teaching large animal rescue subjects.

Together with fellow primary TLAER instructor, Rebecca Gimenez he gives training in Technical Large Animal Emergency Rescue techniques across the US, live animals for the hands-on demonstrations. Jointly Rebecca and Tomas (recently divorced) have published numerous critiques, techniques and journal articles on the subject of technical large animal emergency rescue, and they are internationally sought speakers and subject matter experts on these subjects.

Rebecca Gimenez, Ph.D. and Major in USAR

Rebecca grew up on a farm in Sanford, Florida, where she learned to care for and ride horses; she credits her parents with cultivating her interests in the outdoors as well as the biological and physical sciences.

Her leadership training started with the Junior Reserve Officers' Training Corps (JROTC) Marine Corps in high school, and it continued with a Reserve Officers' Training Corps (ROTC) scholarship to Wofford College in Spartanburg, South Carolina where she graduated with a BS in Biology. Upon graduation in 1989, she became commissioned in the US Army Reserve program as a Signal Corps lieutenant and has tried to balance her military interests with a civilian career ever since.

In 1994 she pursued her PhD in Animal Physiology from Clemson University and graduated in 1997 with several major research publications. Meanwhile, she increased her focus into large animal behaviour in emergency situations by studying natural horsemanship with major clinicians including John Lyons and the Parellis.

In 2000, she became a primary instructor with TLAER and has continued to grow the research and development of new equipment and techniques internationally. Rebecca has a wide variety of experiences that she combines in her teaching, she taught as an adjunct professor at Newberry then Anderson College for several years, owned, edited and published a regional horse magazine for a couple of years, and has written numerous articles about horse behaviour and appropriate TLAER responses as a freelance journalist.

Rebecca is a past member and Logistics Officer for Veterinary Medical Assistance Team (VMAT -2), and currently serves as a Major in the US Army Reserves and currently serves as the S1/Adjutant for the 359th Signal Brigade, Augusta, Georgia.

Rebecca's first book on Technical Large Animal Emergency Rescue was published by Wiley-Blackwell in 2008 with 6 chapter authors besides herself and fellow primary TLAER instructor Tomas Gimenez as editors.

She is active in various Equine organizations, especially in disaster preparedness, animal abuse/neglect and trail riding issues she is an internationally sought speaker and subject matter expert on these subjects.

In November 2010 Rebecca will be a guest speaker and presenter at training courses in Sydney NSW and Wangaratta Victoria before presenting at "Equitana Australia" in Melbourne 18th-21st November 2010. The opportunity to have a world leader like Rebecca present at a training course in Australia would never have been possible without the networking opportunity the Churchill Fellowship has given me.

Equipment

Live Horses and Llamas

The TLAER group use similar equipment to the Fox's LAR Company although the main difference is the use of live trained demonstration animals for most of the training. Tomas and Rebecca along with a number of other assistant instructors have trained their own animals to allow students the opportunity to perform the rescue techniques on a live animal that will move and react if you over stimulate them. It was interesting to see that people were more cautious, didn't rush in as much and paid careful attention to each instruction that was given to them when a live animal was involved.

The NSW Fire Brigade train their Snake handlers with live very reactive snakes for this same reason. They believe that if you train with a piece of rubber hose, the first time a person goes to pick up a lively King Brown snake they will be unprepared for it fast reactions and will be bitten. To date the NSWFB have had no injuries during this training as they adhere to strict safety guidelines.

Horse Mannequin

Rebecca and Tomas utilise a rubberised 200kg mannequin horse that can be placed in scenarios that are far too dangerous for live demonstration animals, for example inside an overturned trailer, hoisted up a steep embankment, extricated from a muddy cold riverbank, or trapped under debris. They also use the mannequin for demonstrations before the students move onto using the live animals.

Containment fence

This is a portable fence made of PVC poles and construction netting it is used to herd and capture animals that are running free. Many times we see on the news a horse running down a freeway with a police car or people chasing it on foot. The reality is that the animal is frightened and is trying to get away from danger. You use the long fence to herd the animal to a safe area before making a complete circle around the animal. It can also serve as a barrier when unloading a horse off one vehicle and onto another. When you are finished it is rolled up for easy storage.

A Frame

Tomas has made an A Frame specifically for lifting large animals. The A Frames carried by rescue crews for human rescue are too small and not rated for lifting large animals. The A frame has the advantage of being used in an area where it is not possible to use vehicle for lifting. It needs to be certified to lift very heavy loads and members of the crew need to be proficient in its setup and use.

Becker sling



The Becker Sling lifting a horse under an A Frame

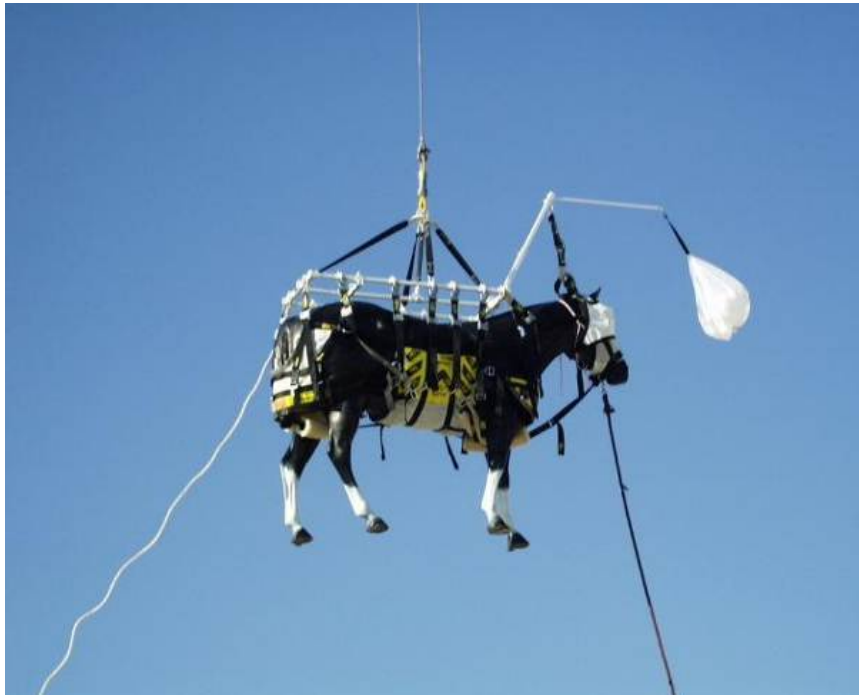
The Becker sling is a made of 2 slings which are passed under the horse and positioned just behind the front legs and just in front of the rear legs a support strap is connected to the front strap and placed across the horses chest to stop it spilling forward. A rear strap would also be beneficial to stop the rear sling moving forward during a rescue. The sling comes with removable padding which is added during protracted lifts or removed when trying to get the sling under a horse stuck in the mud. The sling can be supplied with a quick release system; however the quick release system that is used by both the Tomas & Rebecca and Hampshire Fire and Rescue works more effectively.

Quick Release Spreader bar

Whenever preforming a lift of an animal even sedated it is essential to have a quick release mechanism to disengage the animal from the lifting system as soon as its feet are on the ground, if not the animal could run off and pull over your lifting system or hurt itself.

Tomas has devised a quick release system that does just that it gives the rescuer the ability to remotely release the animal either under load or with no load on the system at all. Jim Green from Hampshire Fire & Rescue as also been working on a similar system and I will discuss his adaptations in that section of the report.

Helicopter lift with Anderson Sling



The helicopter lift is usually a last resort but with a veterinarian on hand for sedation and a well-trained Animal Rescue Team who are efficient in the Anderson slings use, this technique can save valuable time and avoid the unnecessary danger of committing flood rescue boat crews to rescue animals from rising flood waters during emergencies.

Earlier this year the NSW State Emergency Service were innovative in lifting sheep in crates out of flood affected areas with great success. Little or no sedation is required for sheep when undertaking this procedure; however this method would be unsuitable for a horse due to the amount of sedation required to ensure the safety of both the animal and people involved. The amount of sedation required often leaves the horse ataxic and would risk falling inside a crate if lifter in this manner.

The Anderson sling is the only animal sling that is recommended for helicopter lifts and is used in many countries around the world with great success.

Nikopolous Needle

Developed by Dr. Tomas Gimenez and Dr. Dino Nikopouls the Needle used for placing a lifting sling under an animal that is trapped in mud. It is a 2 meter long section of 12mm stainless steel tube bent into a C shape it has a steel loop at one end and a hose fitting at the other end.

The Needle is placed in position then the water is turned on to create a clear path through the mud as the needle is pushed under the animal. When it appears on the other side a guide rope or the sling itself can be attached and then pulled back under the animal.

This system is extremely effective and keeps rescuers in a safe area rather than having to dig in the mud in order to fit a lifting sling. This is a key piece of equipment for animal rescue and organisations undertaking mud rescue within Australia should consider obtaining one to ensure the safety of their operators.

Mud Lance

When an animal is stuck in mud it can have a partial vacuum affect holding it there, much like when your gumboot becomes stuck and stays behind when you pull your foot out.

The mud lance is made of a 1.2 m by 2.5 cm stainless or PVC pipe with an air and water manifold fitted to it. Either water or air is injected into the mud to break the suction during the lift. There are many variations on this system, after having the opportunity to use it I am convinced it is a very useful piece of equipment to have available during a mud rescue.

The Hawkesbury State Emergency Service are currently developing and testing a mud lance for use in their area, they expect to have a working prototype in the near future.

Large animal Floatation Device

During many flood situations large animals become stranded on small islands and may need to be moved if the water is rising. Horses and cows cannot swim for extended periods of time and quickly become exhausted. The abdomens of large animals float extremely well because of the gas present this is further complicated by the weight of the head and neck which are hard for the animal to keep above water. This combination can quickly lead to the animal's nostrils falling below the water line and drowning.

The Large Animal Floatation Device is constructed from a shortened length of 6meter long 100mm supply fire hose with a blank cap both ends and inflated with air. This is then connected to a Becker harness that is already fitted to the horse; a car inner tube is attached under the horses head to ensure the nostrils remain out of the water the animal handlers can then lead the horse into the water where it can be connected to a rescue boat and slowly towed backwards through the water to safety.

This is a very effective system and warrants further research and development by the State Emergency Service as they are the combat agency for Flood Rescue. I would recommend that a working group be established to investigate the feasibility of this system and develop training for flood rescue operators across Australia.



Large animal floatation device

Courses

Awareness Level

The Awareness Level course is intended for anyone who may become involved in an animal rescue including horse owners, polo clubs, horse riding organizations, race officials, veterinarians and emergency service personnel. No previous experience necessary to attend the course.

TLAER Awareness level training is an intensive 2 day (14 hours) course featuring lecture, dynamic Powerpoint displays, and student interaction. The practical portion is short and only provides demonstrations of the techniques.

Instructors cover many principles and techniques that are used during a TLAER and also introduce students to hazards such as confined space / fire / hazmat / swift & floodwater / unstable ground and vehicle extrication rescues, the course is concluded with sling loading operations for large animal incidents.

A heavy background is provided in the areas of large animal behaviour in normal and rescue circumstances; critical medical issues encountered, and stress responses of an animal during these situations.

It is interesting to note that a strong focus is placed on Incident Command System (ICS) and the individual roles within the ICS protocol; this gives a good insight for non-emergency personnel on how and where they will fit in to a TLAER conducted under the ICS.

The course also focuses on the preparedness side of emergencies with special attention to evacuation planning, disaster prevention, animal containment during emergencies such as floods and fires. This approach is refreshing to see as we all know prevention is always better than cure.

Operations Level

The Operations level course intended for a specialized audience (Fire & Rescue Officers, large animal owners/groups, operational personnel in the emergency services, Urban Search & Rescue teams, veterinary staff, animal control, RSPCA Officers, etc.) and anyone that needs to understand the specifics of TLAER operations and is expected to complete live Animal rescues.

The Operations level training is a 3 day (26 hour) course consisting of 4.5 hours of lecture (each morning), 3.5 hours of hands-on techniques each afternoon, and a 2 hour night operation on the second evening to practice search and rescue techniques and the use of a Rescue Glide for recumbent animals. Hands-on experience is provided for all students and the overarching emphasis of the use of Incident Command System is featured throughout the course.

One of the Key components for this course is Tomas & Rebecca's use of live animals during many of the scenarios. I feel that it is extremely beneficial to use live animals, this provides a realistic situation and ensured participants worked carefully and safely during the operations without the complacency that sometimes creeps in when training with Mannequins.

The course is designed for up to 30 people who participate in the practical components and a number of observers who are not involved in hands on techniques. Both the theory and practical sessions are conducted as one large group which unfortunately limits number of people that can get hands on experience at each technique.

An outline of the Operators course includes;

Day One

Morning	Afternoon
<ul style="list-style-type: none"> • Introduction – Emergency and Disaster Preparedness • Basic Concepts in Large Animal Rescue • Large Animal Behaviour and Senses – Normal and under Stress • Containment and Restraint (Physical and Chemical) • HAZMAT issues in TLAER • Weapons of Mass Destruction – TLAER considerations • Emergency Decontamination of Animals (Gross and Technical methods) • The Incident Command System in TLAER • The Large Animal Veterinarian, the Owner, Animal Control • Emergency Field Euthanasia 	<p>Hands on and live demonstrations</p> <ul style="list-style-type: none"> • Introduction to basic TLAER rescue equipment • Introduction to mechanical and rope systems in TLAER • Forward assist, Backwards drag, Hampshire Slip • Manipulation of live large animals <p>Simple vertical lift systems</p>

Day Two

Morning <ul style="list-style-type: none">• Trailer Incident Response• Livestock Trailer Overturns• Response to Fire (barn fires, wild fire)• Agro-terrorism and Foreign Animal Disease• Disasters and TLAER response• Evacuation Planning (emergency and disaster)	Afternoon <p>Hands on and live demonstrations</p> <ul style="list-style-type: none">• Containment, Handling and Restraint of Live Animals• Leading and Loading of Live Animals• Trailer Overturn incident response training Evening (3 Hours) <ul style="list-style-type: none">• Night search & rescue Operational Exercise• Employment of the Rescue Glide
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Day Three

Morning <ul style="list-style-type: none">• Water rescue scenarios (Water, Ice, Unstable Ground, Mud)• Helicopter Operations• Real-life Scenario Tabletop Exercises	Afternoon <p>Hands on and live demonstrations</p> <ul style="list-style-type: none">• Helicopter sling loading operations• Mud rescue• Water rescue
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Conclusion

Tomas and Rebecca are considered world leaders in the TLAER field and have been instrumental in the advancement of this subject across the world through their dealings with other world leaders such as John and Deb Fox from the Large Animal Rescue Company and Jim Green from Hampshire Fire & Rescue in the UK.

Their use of live demonstration animals has proven to be a great success and gives students a realistic expectation and preparedness before encountering a real situation. This is the same principle that the NSW Fire Brigades use with live snakes during their snake handling course.

Further investigation into training with live animals in Australia should be considered. The NSW State Emergency Service TLAER working group should make contact with 2001 Churchill Fellow Kirstin Feddersen, who studied American developments in the training of animals for film work. Kirstin's work may be of benefit in relation to preparing live animals for TLAER training in Australia.

Tomas and Rebecca have designed, developed and purchased many useful pieces of TLAER equipment over many years. It would serve the Australian Emergency Service well to adopt some of this equipment for use during emergencies within Australia. Some of the equipment I would recommend would include:

- Horse Mannequin for training purposes
- Containment fencing
- Becker sling for mud rescue
- Anderson Sling for helicopter rescues during floods and fires
- Quick release spreader bar for use with all slings
- Nikopolous Needle for mud rescue
- Mud Lance
- Large Animal Floatation Device for flood rescue operations.

This year in November 2010 Rebecca is travelling to Australia, she will be a guest speaker and presenter at training courses in Sydney NSW and Wangaratta Victoria before presenting at “Equitana Australia” in Melbourne 18th-21st November 2010.

This will be an excellent opportunity for members of emergency services across Australia to gain a valuable insight into the future direction of Technical Large Animal Rescue in Australia. The NSW Fire Brigades and NSW State Emergency Service should consider sending representatives to participate in this event Melbourne.

The opportunity to have a world leader like Rebecca present at a training course in Australia would never have been possible without the networking opportunity the Churchill Fellowship has given me.

I would recommend that the NSW State Emergency Services Technical Large Animal Emergency Rescue working group led by David King from Hawkesbury, in conjunction with NSW SES management investigate the feasibility of the slings use during flood emergencies.

1. Obtain funding for the purchase of an Anderson sling.
2. Develop a Standard Operational Procedure for its use during flood emergencies.
3. Train at least two teams of rescue personnel including a Vet or RSPCA officer in helicopter lifting operation using this sling in preparedness for emergency situations such as floods or bushfires.



Veterinary Medical Assistance Teams (VMAT)

Introduction

The American Veterinary Medical Association (AVMA) established its Veterinary Medical Assistance Teams (VMAT) to serve as first responders to ensure high-quality care of animals during disasters and emergencies. The dedicated volunteers who work with the VMAT program help ensure that pets, livestock, zoo animals and wildlife all receive the care they need during times of crisis.

The program was developed after Hurricane Andrew in 1992. In 1993 the AVMA and the U.S. Department of Health and Human Services signed a Memorandum of Understanding (MOU) establishing the VMAT program to assist in providing veterinary emergency preparedness and response.

The VMAT program serves three primary functions when its help is requested by state authorities:

Early Assessment Volunteer Teams

These comprise 4-6 person teams, self-sufficient and available upon request from the appropriate state authority. Deployments are 72 hours not including travel time. Teams will focus on assessing veterinary conditions & infrastructure, and gather verifiable data to enable state deployment of appropriate state resources.

Basic Treatment Volunteer Teams

Teams comprising 4-6 person teams are self-sufficient and available upon request by the appropriate state authority. Deployments are 5 days not including travel time. Teams provide primary field care to supplement overwhelmed local capabilities, which could include establishment of a base-of-operations as a field staging area for state-based veterinary triage and veterinary medical care of displaced animals.

VMAT-2

During my visit I had the opportunity to meet a member of the VMAT-2. This team is based in Maryland, although its members reside throughout the country. The team consists of 50 highly trained members which include veterinarians, technicians, and support personnel.

The team carries all necessary supplies, medical equipment, tents, and enough food and water to sustain the team members for at least 72 hours. Their mission is to support the local veterinary community in whatever way necessary to help it to resume its normal support of the community. VMAT-2

has the capability of setting up a full field hospital, and can provide medical care for pets, search and rescue dogs, livestock, wildlife and even zoo animals if the need arises. They may also be activated to assist with food safety concerns, zoonotic disease, terrorist events and toxicological problems.

VMATs must receive an invitation from the affected state in order to be deployed. The local governor may make a disaster declaration and submit a request for assistance. It is at this point that a request for VMAT assistance can be made. If a state requests a VMAT, they will need to fund the response.

Conclusion

The Veterinary Medical Assistance Teams are an excellent resource during times of disasters. They relieve pressure from local animal welfare agencies during large events such as bushfires and major floods. Early deployment does have a considerable impact in reducing the time taken for a community to recover from a disaster.

Courses

VMAT provides emergency-related training to state veterinary associations, professionals and colleges. Topics for 1-2 day training courses include: animal decontamination, disaster veterinary medicine and triage, hazmat awareness for veterinarians, critical incident stress management, leadership, risk communication, occupational safety. Training programs include a lecture format before developing into field exercises.

Conclusion

Investigations into the feasibility of a similar response organisations here in Australia should be considered by Emergency Management Australia and the Department of Industry & Investment. The possibility of combining the assistance of an Urban Search & Rescue Team (USAR) or Disaster Assistance Response Team (DART) for logistical support could also be considered.



Hampshire Fire and Rescue Service

Introduction

Of all the organisations I visited during my fellowship the Hampshire Fire and Rescue Service (HF&RS) appears to have the most effective all-inclusive approach towards animal rescue. The willingness for the Fire Service to recognise the potential for a serious injury or a death of a Firefighter during a Large Animal Rescue has led to the services all hazards approach.

The service also acknowledges that unless a team trained in Animal Rescue arrives at an incident quickly and implements a solid Incident Command System owners and member of the public will attempt the rescue themselves risking both animal and human lives.

In 1994 members from the Hampshire Fire and Rescue Service based at Lyndhurst attended an incident involving a horse that was stuck in a cattle grid, with no training the officers tried to render assistance but unfortunately without the appropriate skills and equipment their efforts were unsuccessful and the horse self-destructed before it could be rescued.

Frustrated by this Roger Green from HFARS approached Sparsholt Agricultural College in order to see if they could run a course that would give Firefighters an understanding of animal behaviour and a basic background on how to deal with certain situations.

In 1995 a Multi Roll vehicle arrived at Lyndhurst Fire Station, this vehicle is a flatbed truck with a HIAB crane fitted to it. A decision was made to purchase a medical suspension harness to assist in animal rescues. By 1996/1997 Eastleigh Fire Station received a multi role vehicle and Anton Phillips a member of the station decided to progress the Sparsholt training concept. This led to an annual animal handling course being run at the collage for a number of years. This ensured the Firefighters had a basic idea about handling animals.

In 2003 Anton approached the Dep't Chief Officer with a proposal that trial be conducted in an attempt to minimise the danger to both Firefighters and animals during animal rescues. Subsequently a team 3 of Animal Rescue advisers was established to respond to incident commanders during animal rescues. Anton was joined by Jim Green the son of Roger green who started the ball rolling back in 1994.

In 2005 both Jim and Anton travelled to the USA to attend a course run by Tomas and Rebecca from the TLAER Company. This meeting proved

beneficial for both parties with the Hampshire Firefighters also showing Tomas and Rebecca things such as; the Strop Guide and the sideways Skid or as Rebecca refers to it the Hampshire Slipe.

In 2007 the Emergency Service Protocol was launched at Buckingham Palace. This was a joint protocol between the British Horse Society and the British Equine Veterinary Association (BEVA) and emergency services such as police and fire brigades. The Fire Services contribution involved Jim Green writing the rescue & emergency call handling procedures for the (999) emergency call takers to follow.

In 2008 Hampshire Fire Service in conjunction with Professor Josh Slater from BEVA started the first rescue and emergency medicine course for veterinarians how may find themselves involved in rescue incidents. This course was extremely popular amongst the veterinarian community as it was the first time training designed to help them perform the duties in emergency situations had been offered.

Also during this year Hampshire Held the National Conference for Animal Rescue at Lyndhurst, this event was attended by 150 members from various veterinarian and emergency service backgrounds.

As a result of the successful conference the Chief Fire Officers Association (CFOA) asked Hampshire to chair and host a national forum to establish safe working practices, Standard Operational Procedures, levels of training and equipment for use by brigades across the UK. This working group consisting of about 60 members still exists today. It holds meetings every 3 months to share ideas develop new training techniques and ensure that all Fire Services across the UK are working in the same direction.

During my visit I was invited to attend the Chief Fire Officer Associations Animal Rescue Practitioners Forum. The members are broken into smaller groups who work on different areas such as training, equipment development, standard operational procedures and policy development before meeting as a larger group to give updated on the progress of each group.

This national approach works very well and should be considered by the Australian emergency services. Funding and support should be sought from Emergency Management Australia (EMA) and would need the backing of the Australian Fire Authorities Council (AFAC) in order to be successful.

The Australasian Fire and Emergency Service Authorities Council (AFAC) is the industry body for fire, land management and emergency service organisations in Australia and New Zealand and has the ability and structure to ensure a project such as this would succeed. Future development of formally endorsed curriculum aligning to the Public Safety Training Package should be undertaken by a working group.

2010 saw the implementation of Team Typing for training and response. This involved operators being trained to three levels known as:

- AR1 - is basic awareness training for all Firefighters.
- AR2 - is the operator level training allowing them to perform an animal rescue safely.
- AR3 – is the Animal Rescue Specialist who attends incidents as an adviser to the IC and conduct animal rescue training.

The Team

Hampshire Fire and Rescue Service have implemented many policies and procedures to deal with animal rescue; however the one that ensures the effectiveness of the whole project is the Animal Rescue Specialist Team (AR3).

The Animal Rescue Specialists all have a rural background and are trained to an extremely high level in relation to animal physiology, psychology & veterinarian drug administration. They have a comprehensive understanding of the many other potential hazards that can be encountered on a rural property.

During my visit, an Animal Rescue Specialist responded to a barn fire. On his arrival, Firefighters were about to let 2 separate herds of 75 grain feed bulls into the same paddock. The Animal Rescue Specialist quickly explained to the Incident Commander the dangers of letting 150 bulls into the same area to re-establish a pecking order, let alone the chance of killing every bull by the sudden change in diet from eating pure grass. This action averted a potential disaster and saved the cattle farmer hundreds of thousands of dollars.

The team consist of one full-time Firefighter (Jim Green) who works Monday to Friday overseeing the whole project. Some of Jim's duties include running training courses for veterinarians across the UK; lecturing at Cambridge University; designing, developing and installing new equipment and courses; attending meetings and of course responding to rural incidents including fires as an adviser to the Incident Controller.

The other three members of the team are full time Firefighters who, on their days off, are on call as Animal Rescue Specialists (similar to retained members) responding to any rural incident within their area to advise the Incident Commander and rescue teams on techniques and methods that can be adopted. They also liaise with the veterinarian and have the ability to have a professional conversation with the vet about the type and amount of sedation that will be required to ensure the safety of all personnel involved in the rescue operation.

The team consists of:

Jim Green Watch Manager and Team Coordinator

Jim would have to be one of the easiest going people I have met; his ability to get on with the job no matter what happens is incredible. I can see that the Hampshire Fire and Rescue Service's Animal Rescue Team is where it is today because of Jims dedication and determination and this should serve as an inspiration to anyone trying to achieve the same.

Jim trained as a forest manager and experienced various aspects of forestry both in the private and public sector before moving to Australia for a season as a first attack forest Firefighter with the Forestry Commission in Victoria.

Since joining HFRS Jim has utilised his forestry and farming skills to develop the Service's Rural Safety and Animal Rescue Teams and is now employed as a fulltime Animal Rescue Specialist with HFRS.

In addition to his response role he coordinates and provides specialist training for vets and the RSPCA and along with the other colleagues from the team, Jim has developed accredited Animal Rescue Instructor courses for other fire and rescue services.

Anton Phillips Watch Manager Animal Rescue Specialist

Anton the shortest member of the team is a watch manager at Eastleigh Fire Station and has been involved in the HFRS for many years.

Having a strong agricultural and equine background, he became the catalyst to develop a specialist Animal Rescue Team in Hampshire. In 1996 Anton progressed the idea of animal handler training for Firefighters and implemented the Sparsholt training concept as reality.

Anton has spent many years studying animal psychology and physiology which has enabled the fire and rescue service to achieve safer working practices. Did I mention he is the shortest member of the team?

Colin Horwood (*the phantom*)

Colin is a retained watch manager although he is still an Animal Rescue Specialist with HFRS. Col is a tree surgeon in the north of Hampshire; a skill that comes in particularly handy when there is a cat up a tree. He also has a background in the agricultural industry, and has taught animal behaviour and husbandry to students at Reading University.

Although I only saw Col for about 10 seconds during my 2 month visit he seems to handle the majority of animal rescue calls when the other three specialists are running courses.

Buster Brown

Buster is the most recent addition to the Animal Rescue Specialist Team joining in May 2008. Having retired from the whole time fire and rescue service after 29 years, Buster continues to respond as a retained Firefighter and brings a wealth of experience to the Animal Rescue Team.

Buster contrary to his name is a very analytical operator whose experience knowledge and ability to think outside the box complements this specialist team.

Equipment

The HFRS have had a close working relationship with the other organisations from around the world and as such all use similar equipment. Much of the equipment has been developed by HFRS either at their brigade's fleet workshop or in conjunction with various suppliers.

Horse Mannequin “Rescue Randy”

The HFRS use “Rescue Randy” a Mannequin made in the UK by Resquip, it has developed in conjunction with the UK Fire and Rescue Service to provide an essential piece of Large Animal rescue training equipment.

The horse is built round an articulated steel skeleton that provides free-standing strength whilst allowing full articulation of the head, neck, and limbs. The Horse has spring steel strip inside the neck that allows for a degree of sideways head and neck movement. This enables the head to be raised when the horse is on its side allowing rescuers to insert head protection; it also enables more realistic positioning of the horse prior to the rescue exercise.

The horse has been designed to be either fully articulated or, by the use of locking pins inserted in the leg joints completely free-standing, this allows it to be stood on its hooves in preparation for a vertical lift or submersed into mud and water for more complicated rescue scenarios.

The horse comes with its own wheeled floor stand that can be moved and stored easily without the need to dismantle the animal. For ‘Health and Safety’ reasons, the hooves have been designed in such a way that they can be secured to the floor Stand, thus preventing the horse from toppling over sideways when being used in the standing position for slinging and harnessing demonstrations.

The horse is also fitted with eyelets that can be used for lifting the animal when required, this proves useful when setting up rescue scenarios or packing up after a training event.

During my trip I had the opportunity to meet with Paul Barrett-Brown from Resquip. Paul was extremely receptive to suggestions and seems genuinely interested in advancing the development of the product. One of the issues that he has been working on is the heat build-up if the horse is left in the sun. They have overcome this problem by using a white horse, Paul has also been working on the compound used for the exterior of the animal, he has since emailed me saying that he has found a product that will stand up to the harsh Australian environment.

Of the different mannequins I have had the opportunity to use this would have to be the best for the following reasons:-

- The galvanised steel chassis (skeleton) within the torso to provide strength, to accurately locate the legs, and to facilitate assembly/dismantling when required.
- The fully articulated head, neck, and limbs give sufficient movement at the joints to provide realistic positioning of the horse when setting-up the widest possible range of rescue training scenarios.
- Fully lockable neck and limbs enable the horse can be placed in free-standing rescue situations such as water and mud. This facility is essential when demonstrating the use of a mud lances to free trapped hooves.
- The lifting eyelets attached to the torso are very useful when used for setting up rescue scenarios of recovering the animal after training.
- The floor frame with wheels provides a stable base to stand the horse on during public displays and training it also allows easy movement of the horse when required.

Investigations into obtaining funding for this mannequin should be taken immediately as the benefits to training rescue operators in basic techniques to preform to ensure the safety of themselves and the animals they are attempting to rescue can be paramount.

Live Animals

As with the other organisations the HFRS also see the benefits of training with live animals. They contribute 2 days of a course too handling various types of animals; this ensures there operators have a basic knowledge and confidence of animal handling before attending an Animal Rescue course.

Unlike the Tomas and Rebecca the HFARS don't have specifically trained animals, rather they use sheep pigs and cows from the local agricultural college which have been handled but won't lay down on command.

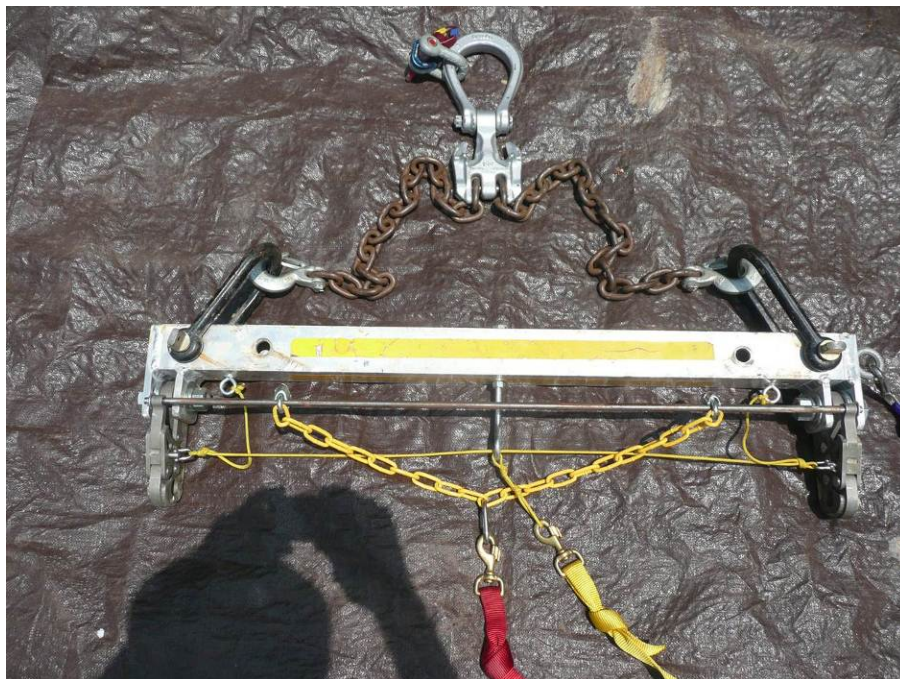
To overcome this problem they use a common technique called casting to get a small cow to lay down for the slinging and lifting evolutions. Casting involves

using a rope around the girth to activate pressure points on the cow which makes it lie down. During the courses I was involved in this process over 25 times and time it worked flawlessly.

Quick Release Spreader Bar

Whenever you attach a horse to a lifting system you need to have a method to release the animal quickly once it is on the ground, otherwise it may run away while still connected to your lifting system thereby placing people and the animal in danger. Both HFRS and the Tomas and Rebecca from the TLAER Company have been working on a quick release system to do just that.

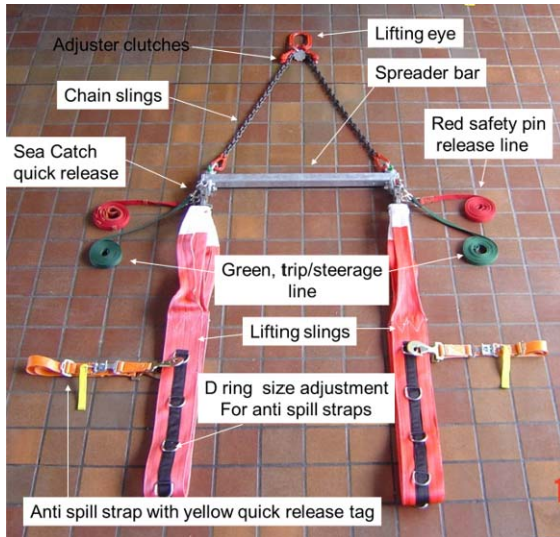
With the use of a Sea Catch (*normally used in the shipping industry*) attached to a spreader bar you can remotely release the animal from the sling as soon as its feet touch the ground. Although an expensive piece of equipment it is an essential to ensure safety both people and the animal during the rescue.



Quick Release Spreader Bar

Hampshire Rescue Sling

HFRS in conjunction with Prichard Tyrite have developed a lifting sling that is simple to use and is effective for a short lift from a pool, ditch or mud bog. It consists of 2 red straps that can be quickly & easily fitted to an animal even in a bog. The key to this slings success is the quick release Anti-Spill straps that stop the animal falling out of the sling either forwards or backwards. The operator releases the Anti-Spill straps just before the animal is placed on the ground.



Hampshire Rescue Sling



Hampshire Rescue Sling in use.

Medical Suspension Harness

This harness was designed for use with cows but HFRS have made a few alterations making it suitable for horses as well.



Cow Medical Suspension Harness



Medical Suspension Harness on a horse

Strop Guide

The strop guide was developed by HFRS. They consist of a 2 m long 7cm wide 3mm thick cold rolled steel with a handle at one end and a hook with a steel ball at the other end. The guide is formed to follow the natural shape of an animal's torso. The guide allows a rescuer to approach a recumbent horse spine side to slide the guide under the animal so a strop can be attached to the hook then pulled under the animal. This ensures no one has to enter the kicking zone.

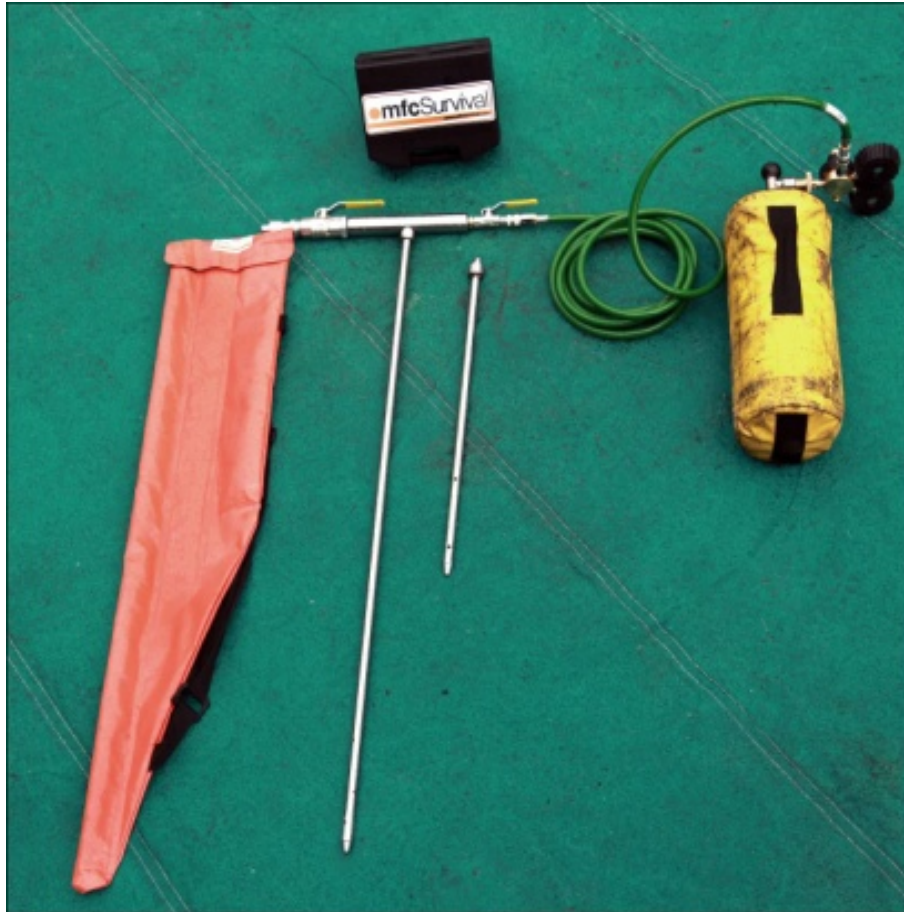


Strop Guide and a rescue strop

Mud Lance

One of the main things to overcome during a mud rescue is the suction. In the same way that your gumboot becomes stuck in the mud, a horse leg can also be caught by the suction of the mud. The Mud Lance is used to break the suction of the mud by introducing either water or air into the bog thereby negating the suction effect.

There are a number of different types of this device on the market and many rescue teams around the world have also designed their own. The Hawkesbury State Emergency Service have used the gages and lines from the high pressure air bag set to make an emergency mud lance in the field during a horse rescue and it worked remarkably well. This demonstrates the ingenuity of Australian rescue teams. The unit is now designing a mud lance that will work with existing High pressure air bag set and also has the ability to connect standard 25mm fire hose to induce water as well.



Mud Lance kit

Mud Rescue Paths

During most mud rescues there is a very likely possibility of rescuers needing to enter the mud to gain access to the trapped animal. This can limit the rescuers ability quickly move out of the way in an emergency if required. Therefore it is better to ensure the rescue does not become stuck in the mud but remains on top of the surface.

The mud rescue path manufactured by MFC Survival is designed to allow personnel to operate on the surface of mud, water and Ice during rescue operations. The path is inflated with air before being slid out over the unstable surface; this allows rescuers to access the trapped animal and slide it back along the path to safety.

Rescue paths can also be used during floods for moving people on it as a raft in shallow water where the use of a boat may not be practical.

The State Emergency Service should consider purchasing a rescue path for trial in both mud rescues and flood rescue operations to determine the possibility of strategically locating these devices around the state.



A Mud Path in use

Hampshire has a suggested basic equipment inventory for animal rescue teams that includes:

<ul style="list-style-type: none"> • 1 x quick release sling set • 1 x medical suspension harness • 1 x strop guide • 1 x rescue glide (and ancillary equipment) • 3 x rescue glide extra sheets • 2 x 5 metre strops, 3" wide • 1 x 9 metre strops, 3" wide • 2 x 12 metre (trailer righting) strops, 6" wide • 2 x 1.5 metre continuous loop strops • 2 x general purpose lines (10 metre) • 4 x head collars • 4 x lead ropes • 4 x standard lunge lines • 4 x halters (cotton) • 4 x jameson extension poles with attachments: <ul style="list-style-type: none"> ○ pruner saw ○ wire/limb raiser ○ lopper 	<ul style="list-style-type: none"> • 4 x singular hobbles (restraining and lifting) • 2 x 10 metre rescue paths • 2 x 5 metre rescue paths • 1 x small carry sheet • 1 x large bank sheet • 1 x mud lance complete • 1 x skaff pack with 10 metre rope • 2 x body protectors • 1 pair wildlife gloves • 1 pair bitemaster gloves • 1 x RSPCA grasper • 5 x RSPCA blue plastic carry box (flat pack) • 2 x RSPCA dog leads • Set of 3 muzzles • 1 x catch net • 2 x working at height kits • 2 x police riot shields • 2 x pig boards • 4 x crooks – heavy limb • 2 x crooks combination neck and leg
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Courses

AR1 (Animal Rescue 1)

The Animal Rescue 1 course is basic level awareness presentation that is delivered to all operational Firefighters, call center staff and senior officers. The course is a 2 hour Power Point presentation which covers securing the scene to ensure the safety of members of the public by removing them from the hot zone, determining what resources may be required and implementing ICS before the arrival of an AR2 team who will perform the rescue.

AR2 (Animal Rescue 2)

The Animal Rescue 2 operators are attached to identified rescue stations throughout the country. They are the people who will perform the rescue and have hands on contact with the animal. The AR2 operator has to have the ability to handle and lead animals confidently, have a good knowledge of animal behaviour, and can perform a variety of animal rescue techniques in a safe manner.

The course consists of 2 parts; the 1st part is a 2 day animal handling course which is conducted at Sparsholt Agricultural College.

The theoretical side of the course covered all aspects of animal behaviour, physiology and psychology including the flight or fight reaction of animals, and the basic instincts of each species in relation to their herd behaviour.

The practical part of the course involves herding, catching, haltering and leading horses and cows in a variety of situations; this instils both confidence and safe operational practices for the rescuers.

The safe handling of pigs ranging from a few days old up to large pigs that are ready for market is then undertaken. The use of pig boards to move large groups is practiced; this also prepares the Firefighters for situations such as evacuating a piggery or farms that are on fire.

The herding of sheep in large groups is practiced in a paddock before the rescuers are required to load them into the back of a cattle truck, as can be imagined this provides light comical relief for the instructors.

I found the animal handling course an essential part of any animal rescue course as many rescue operators have never handled large animals and don't have the underpinning knowledge of animal behaviour, therefore I consider it a must for anyone developing a training package or training their personnel in animal rescue.

The 2nd part of the AR2 course is a 2 day rescue training course. The training refreshes what was learnt in the AR1 course before moving onto more in depth subjects such as zoonotic disease's, chemical restraint and euthanasia. These sections are of great benefit to rescuers as most operators have never considered these topics as being part of an animal rescue.

After having completed the 2 day animal handling course the trainees are in a very good position to get into the practical components of large animal rescue. The course focuses on techniques that the rescuers will utilise during any TLAER.

Day 1

Morning

- Introduction
- Traditional F&RS response to large animal rescue
- Priority of first attendance
- Large animals in distress- reactions:
 - Fear
 - Flight
 - Herd mentality
 - Weapons
- Associated people:
 - Equine owner
 - Farmer and farm machinery
 - Other responders
 - Veterinarians
- Behavioural characteristics and senses of prey animals:
 - Flight zone
 - Sight
 - Smell
 - Touch
 - Hearing
- Team typing and mobilisation / call handling
- Incident Command
- Scene management
- Zoonotic and other health issues / PPE
- Restraining and moving animals / physical restraint
- Natural sedatives
- Role of the Vet
- Chemical control methods
- Euthanasia
- Post incident protocols

Afternoon

- Introductions to PPE and equipment
- Practical head restraint (Handling sessions)
- Skidding and manual manipulation exercises
 - Forward Assist rescue session
 - Forward, backward and sideways skidding rescue sessions
 - Rollover rescue session
 - Rescue glide rescue session
 - Trailer and confined space extrication rescue session

Day 2

Morning

Rescue case study scenarios and solutions

- Mud/ditches/slurry
- Fire situations
- Transportation
- Stables/casting
- Cattle Grids
- Water
- Wells/holes etc
- Large scale animal incidents

Practical lifting:

- Rescue Lift rescue session
- Medical suspension rescue session
- Hobbled vertical lift rescue session
- Lifting with non-service equipment rescue session

Trailer righting (Practical) rescue session

Afternoon

Rescue scenarios (Practical)

End of course discussion on outcomes at future courses

AR3 (Animal Rescue 3)

The AR3 course has been developed in response to a requirement from the Chief Fire Officers Association for standards, accreditation and equipment to deal effectively and safely with the regular Fire and Rescue response to animals in entrapped situations. These levels have been agreed by the National CFOA Animal Rescue Practitioners Forum. The requirements for someone to attend an AR3 course should ideally be that they have previously attended a 4 day AR2 Responder course in rescue techniques and animal handling. Basic animal rescue techniques will be included in the AR3 course as a refresher.

AR3's will be expected to act as sector Commanders at an incident and cascade training to members of the Service.

The AR3 course is conducted over 4 days and consists of the following:

Day 1

Morning

Introduction

- Traditional response to animal rescue
- Large animals in distress-
Reactions:
 - Fear
 - Flight
 - Herd mentality
 - Weapons.
- Senses:
 - sight
 - smell
 - touch
 - hearing
- Flight zone, containment measures
- Associated people and their influences at animal incidents:
 - Equine owners
 - Farmers
 - General public
 - Non-Governmental Organisations
- Incident Command and application at animal incidents
- Golden Rules of animal rescue
- Minimum standards of training for responders
 - AR1
 - AR2
 - AR3
 - Large Animal Veterinarian
- Natural Sedatives
- Zoonotic diseases, conditions and other health issues
- Approach and restraint
- Scene management
- Post incident protocols

Afternoon

- PPE and equipment
- Rescue Techniques:
 - Forward, backward and sideways skid
 - Rollover, confined and unconfined space
 - Rescue glide
 - Mud lance
 - Trailer extrication
- Lifting techniques
 - Rescue
 - Trailer righting
 - Medical suspension
 - Hobbled

Day 2

Morning

(AR3 Training by authorised BEVA Veterinarian)

- Role of the Vet
- Anatomy of the horse
- Sedation and Anaesthesia drug combinations and effects.
- OH&S considerations when working with Veterinary medicines
- Viability of the animal and risk to people
- Euthanasia

Practical Anatomy session involving a necropsy of a horse and cow showing where lifting slings can injure an animal.

Afternoon

Rescue scenarios and solutions (classroom based)

- Mud/ditches/slurry
- Fire situations
- Transportation
- Stables/casting
- Cattle Grids
- Water
- Wells/holes etc

Day 3

Morning

(RSPCA Inspector conducts this session)

- RSPCA- Structure of organisation
- Legislation and jurisdictions
- Role of Inspectors and Animal Collection Officers
- Introduction to small animal rescue and capture equipment
- Small animal incidents and protocols, dogs in holes and cats up trees etc.
- Other specialised incident types, e.g. marine mammals, exotics animals

Practical scenarios and problem solving in groups

- Horse in ditch
- Horse in trailer
- Bull in a ditch
- Animal in overturned trailers

Afternoon

Practical scenarios and problem solving swap groups

- Horse in ditch
- Horse in trailer
- Bull in a ditch
- Animal in overturned trailers

Day 4

Morning

Rural environments, safety and fires of farms

Knowledge check

Afternoon

Final exercise and debrief involving full simulation

End of course and close

Veterinarian Training

The Hampshire Fire & Rescue Service in conjunction with the British Equine Veterinarian Association (BEVA) identified the need for large animal veterinarians to be trained in TLAER.

A two tier approach was adopted with the objective of giving student Veterinarians at university awareness level training which would ensure that all new vets could operate safely in a rescue environment. The second level was aimed at existing large animal Veterinarians who elected to undertake a more intense training course covering all aspects of animal rescue with an emphasis placed on the roles and responsibilities of the vet during a rescue. The training was accredited and conducted by an AR3 Animal Rescue Specialist from Hampshire Fire & Rescue Service.

Cambridge University

Final year elective veterinarian students attend a half day training section on TLAER conducted by Hampshire Fire & Rescue Service. The course gives the soon to be veterinarians an introduction into TLAER and an insight into the emergency services Incident Command System and where they will fit into the overall animal rescue operation.

The students are taken through a PowerPoint presentation covering many aspects of scene management, ICS including their role in the rescue effort and type of personal protective equipment they will be expected to wear.

Rescue and Emergency Medicine Veterinarian Training Course

This is a 2 day BEVA accredited course that is conducted by AR3 Animal Rescue Specialists from Hampshire Fire & Rescue Service and specialist veterinarians who have a substantial background in emergency medicine. The course is designed for currently practicing large animal veterinarians who elect sign up to the BEVA register.

The course covers the basics of TLAER but focuses heavily on sedation, analgesics and field anaesthesia. There is a large component dedicated to the drug regimens and the importance of ascertaining how distressed the animal is before determining the amount and combinations of drugs that will be required. The course encourages the veterinarians to use a large volume of drug in the first instant as research has shown topping up is not as effective.

Of particular note is the number of veterinarians and officers who work in either the royal household cavalry or kings troop who are required to undertake this course, this demonstrates the level of respect for this course across the veterinarian community

BEVA Register

On many occasions emergency crews attend large animal emergency rescues where a veterinarian has not been called or the veterinarian on sight is unprepared to be involved in the rescue operation. A national register of veterinarians who are willing to attend emergency scenes and who have undertaken the Rescue & Emergency Medicine Veterinarian Training Course elect to have their contact details added to a register that is set up by the British Equine Veterinarians Association and is available in all emergency service dispatch centres across the country

This type of register should be considered within Australia and could be managed by the Australian Veterinarian Association and distributed to the emergency services across the nation for use in their communication centres.

Veterinarian Client Education Evenings

Hampshire AR3 Animal Rescue Specialists attend veterinarian client evening where a local veterinarian practice puts on an information evening for their clients. The evening usually consists of a BBQ or light refreshments before a PowerPoint presentation that includes photos and videos of actual rescues. The presentation covers what to do and who to call in the event of their animal being involved in an accident. A strong emphasis is placed on prevention covering such things as fire safety in the stables and around the farm along with other topics such as horse float transportation safety.

During my trip I had the opportunity to attend a number of these evenings and talk with owners, veterinarians and emergency service personnel who all praised the initiative and said they had definitely benefited by attending. Many people said they were going to review the emergency evacuation procedures and plans the following day.

Conclusions

As previously mentioned the Hampshire Fire and Rescue Service's all-inclusive approach towards animal rescue and the willingness of their Fire Service to recognise the potential for a serious injury or death of a Firefighter during a Large Animal Rescue has led to their services all hazards approach.

The service also acknowledges that unless a team trained in Animal Rescue arrives at an incident quickly and implements a solid Incident Command System, owners and member of the public will attempt the rescue themselves risking both animal and human lives.

The AR1, AR2 & AR3 levels of training ensure that all personnel are trained to the required level and can provide the safest and most effective outcome during any rural emergency.

As the public Safety Training Package (PSTP) is being used by most emergency services within Australia investigations into course development in this field should be undertaken by organisations such as Emergency Management Australia (EMA) or the Australian Fire & Emergency Services Authorities Council (AFAC) of whom most Australian Emergency Services are members. If considered appropriate the course could then be developed into a (PSTP) package in conjunction with Government Skills Australia.

The emergency services within Australia should consider the same 3 levels of training for their operators although I believe that the AR1 training could be designed in a similar way as the Urban Search & Rescue (US&R) category 1 CD that was developed by the Fire services to train all first responders to US&R incidents via self-paced learning.

The establishment of a fulltime Animal Rescue Specialist position who is supported by 3 retained specialists is the key to the success of Hampshire's animal rescue capability.

In order to achieve the same success the NSW Fire Brigades should investigate a similar system with a Coordinator to oversee the development of training material the implementation of the training of its personnel across the state. As with Hampshire Fire & Rescue Service the coordinator could maintain an AR3 response capability in the Greater Sydney Area whilst the training of Senior Instructors in country areas to AR3 level would ensure an adequate response to all rural emergencies including fires within the NSW Fire Brigades jurisdiction.

The State Emergency Services should consider training units with an identified risk to AR2 level with some members trained to AR3 level this would ensure adequate coverage across the state.

The veterinarian training in England is worthy of special note and should be considered within Australia. As veterinarians should be involved in all large animal rescues their training in Rescue and Emergency Medicine serves two purposes.

enables them to work effectively within the Incident Command System and in the event of an untrained rescue team attending an incident it allows them to recommend practices that will ensure a safe and effective rescue.

The Veterinarian association of Australia should consider investigating training similar to that of the BEVA courses delivered by Hampshire Fire & Rescue services AR3 operators. This training could be delivered by:-

- Qualified Animal Rescue Specialists from an emergency Service
- NSW Fire Brigades ComSafe Commercial Safety Training Service
- Private sector emergency training companies

Churchill Fellowship Report on Technical Large Animal Rescue – 2010
Anthony Hatch

Veterinarian client education evenings are an excellent way for the Fire Service to educate the public not only in relation to what to do if their animals are involved in an incident but in all aspects of rural safety including fire prevention and evacuation procedures. This initiative can go a long way to minimising the impact of an emergency in the rural community.

The Emergency Services and local Veterinarians should work closely together to provide similar service to their local community. This valuable educational program can without doubt minimise the impact of an emergency situation in the Australian Community.

In relation to training and equipment, funding should be sought for the purchase of a horse mannequin from Rescue Critters that can be used in training during Animal Rescue courses, as this has proven to be the safest and most effective way to train rescue personnel across the world.

The purchase of a 2 bay horse float that can be used to transport this mannequin and a cache of rescue equipment for training courses around the country should also be investigated. This float and rescue cache could also be deployed to disaster zones such as floods and fires and utilised as rescues to assist in the response and recovery efforts during times of disaster.

I would recommend within NSW the State Emergency Service`s Large Animal Rescue Working Group apply for funding Grant to develop this capability from Emergency Management Australia (EMA) or similar grant.

Final Recommendations

Training Development

1. A combined Emergency Services national approach similar to England's Chief Fire Officer Association's "Animal Rescue Practitioners Forum" should be implemented to ensure consistency in training across all agencies; this could be implemented by the Australasian Fire & Emergency Service Authorities Council (AFAC).
2. Develop a training package for use by general land rescue units within a 12 month period.
3. Develop units of competency for "Technical Large Animal Emergency Rescue" (TLAER) to be included in the Public Safety Training Package.
4. The development of 3 levels of training similar to Hampshire Fire & Rescue Services.
 - a. AR1 basic awareness training.
 - b. AR2 operator level training to perform an animal rescue safely.
 - c. AR3 Specialist who attends incidents as an adviser to the IC and conduct animal rescue training.
5. AR1 training via E-learning to be designed in a similar way as the Urban Search & Rescue (US&R) category 1 CD which was developed by the Fire Services to train all first responders to US&R incidents via self-paced learning.
6. NSW Fire Brigade incorporates "Technical Large Animal Emergency Rescue" training into the skills maintenance program for all existing SRB Rescue Operators.
7. Further investigation into training with live animals in Australia should be considered. The NSW State Emergency Service TLAER working group should make contact with 2001 Churchill Fellow Kirstin Feddersen, who studied training of animals for film work. Kirstin's work may be of benefit in relation to preparing live animals for TLAER training in Australia.
8. The Veterinarian Association of Australia implements training similar to that of the British Equine Veterinarians Association's "Rescue and Emergency Medicine" Veterinarian Training Course delivered by

Hampshire Fire & Rescue Services AR3 operators. This training could be delivered by:-

- a. Qualified Animal Rescue Specialists from an Emergency Service.
- b. NSW Fire Brigades ComSafe Commercial Safety Training Service.
- c. Private sector emergency training companies.

Response Capability

9. Establishment of an emergency contact list, including after hours numbers of Zoos and large animal Veterinarians that could be distributed to all emergency service coordination centres across Australia.
10. Organisations to develop standard operational guidelines in relation to Technical Large Animal Emergency Rescue.
11. The State Emergency Services should consider training units with an identified risk to AR2 level with some members trained to AR3 level; this would ensure adequate response coverage across the state.
12. NSW Fire Brigades should develop a similar system to Hampshire Fire & Rescue Service and appoint a Project Coordinator to oversee the development of training material and the implementation of the training of its personnel across the state. As with Hampshire Fire & Rescue Service the Coordinator could maintain an AR3 response capability in the Greater Sydney Area, whilst the training of Senior Instructors in country areas to AR3 level would ensure an adequate response to all rural emergencies including stable fires within the NSW Fire Brigades jurisdiction.
13. NSW State Emergency Service Train a number of teams of rescue personnel including a Veterinarian or RSPCA Officer in helicopter lifting operation with the Anderson Sling in preparation for emergency situations such as floods or other emergencies.
14. NSW State Emergency Service to acquire a 2 bay horse float that can be used to transport a cache of rescue equipment for training courses around the country. This float and rescue cache could also be deployed to disaster zones such as floods and fires and utilised as a resource to assist in the response and recovery efforts during times of disaster (this may require project funding).

15. Emergency Management Australia and the Department of Industry & Investment, investigate the development of a disaster response team similar to that of the Veterinary medical assistance teams (VMAT) in the USA. The possibility of combining the assistance of an Urban Search & Rescue Team (USAR) or Disaster Assistance Response Team (DART) for logistical support could also be considered.

Equipment

16. NSW State Emergency Service to acquire a horse training mannequin in order to teach Animal Rescue safely.
17. NSW State Emergency Service's large animal Rescue working group continue to research and develop equipment mentioned in this report.
18. NSW State Emergency Service to develop its Flood Rescue capability of Large Animals and purchase the following equipment :-
 - a. Large animal floatation device for flood rescue.
 - b. Anderson Sling for remote air rescue.
 - c. Mud paths for working on water or muddy ground.
19. NSW Fire Brigades to develop a cache of animal rescue equipment that is available upon request by its rescue teams when required.

Final Conclusion

Technical Large Animal Emergency Rescue has both an economical and emotional impact on the Australian community as a whole. Having a capability to respond safely and effectively to these types of emergencies will ensure the best possible result.

The early response by trained rescuers & veterinarians along with an effective incident command system will ensure the safety of all parties involved in a large animal emergency.

This report and its recommendations are the start of a long journey in the development of a Technical Large Animal Rescue Capability in Australia that will assist all stakeholders.

We are extremely lucky that others from around the world have led the way and are willing to help in our endeavours in any way they can.