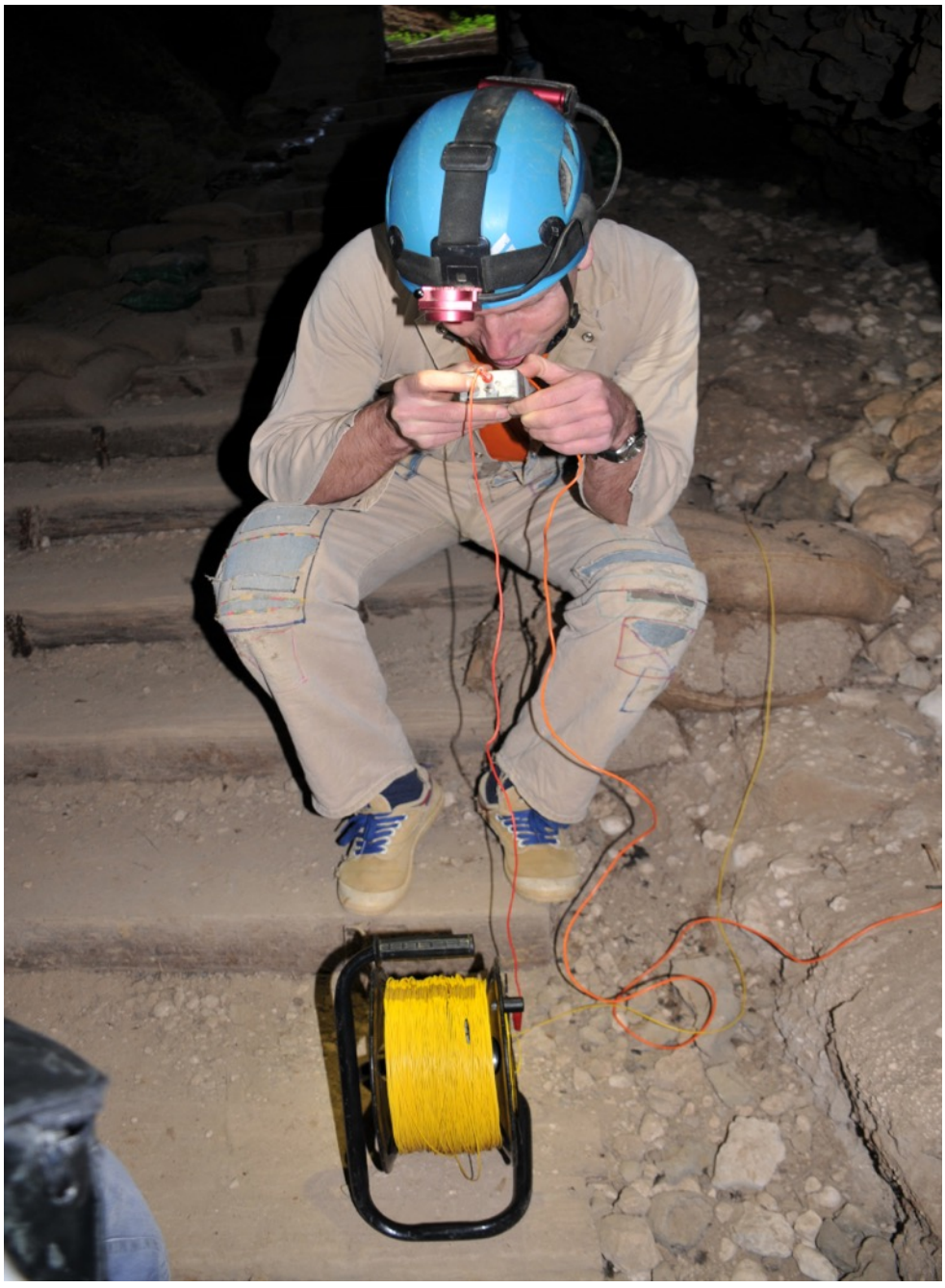
FUSSI Newsletter

Vol. 30 | No. 4 | 2018



SPECIAL ISSUE

JOINT CLUB CAVER RESCUE TRAINING, CURRAMULKA. SEPTEMBER 2018

THE COMDEMMED, Erh, COMMITTEE

PRESIDENT
David Mansueto
fussi@fussi.org.au

TREASURER
Tania Wilson
fussi@fussi.org.au

SECRETARY
Dee Trewartha
fussi@fussi.org.au

SAFETY OFFICER
Clare Buswell
fussi@fussi.org.au

PUBLIC OFFICER
Thomas Varga
fussi@fussi.org.au

LIBRARIAN
Immi Marshall
fussi@fussi.org.au

EQUIPMENT OFFICER
David Mansueto
fussi@fussi.org.au

NEWSLETTER EDITOR
Matt Timms
fussi@fussi.org.au

WEBSITE
Thomas Varga
Heiko Maurer
fussi@fussi.org.au

ASF REPS
Sarah Gilbert
fussi@fussi.org.au

FOR ALL TRIP ENQUIRIES
Dee Trewartha
fussi@fussi.org.au

SASC REP
Dee Trewartha

CONTENTS

Special Issue on Search and Rescue Training

Front Cover Photo: Mark Corbert using a Michie phone. Corra Lynn Cave

Front Cover Photo Credit: Neville Skinner.

Views and opinions expressed are not necessarily those of the editor, FUSSI or the Federation.

Web address: www.FUSSI.org.au

Facebook:

https://www.facebook.com/groups/149385231791386

All correspondence to:

Flinders Uni Speleological Society Inc.
Alan Mitchell Sports Building
Flinders University
GPO Box 2100
Adelaide, SA 5001.

Email address: *fussi@fussi.org.au*

Flinders Uni Speleological Society Inc, is a Corporate Member of the Australian Speleological Federation Inc.

TRIP LEADERS DESERVE CHOCOLATE

C. Buswell

A Seminar On Trip Leaders, Chocolate and Expectations.

The first session of the search and rescue programme was a seminar held to get people to think about their expectations of: caving leaders, fellow cavers, gear, trip processes. These are sometimes spoken about, but mostly assumed, by members of caving groups. Over the course of a usual FUSSI meeting, involving the requisite wine, cheese and other victuals, people were asked about the following:

What are your expectations of your Trip Leader?

Replies from Group One:

The leader should:

Know the way out, have emergency contact details.
Know emergency protocols – 'what to do in case of ...'.
Have First aid knowledge, leadership skills for trouble makers.
Give advice in potentially dangerous areas
Have gear/ knowledge to set up safety lines and rigging.
Have a supply of vegan snakes and skittles.
Be friendly, approachable.
Awareness of medical conditions of members on the trip.
Be able to keep track of all people in the group.
Know the weather conditions and if they will have an impact.

Replies from Group Two

Should know the way to the cave and back out again.
Have Communications organised.
Have first aid organised.
Know of any medical conditions of the participants on the trip.
Have a list of external agency emergency contacts.
Know locations of local hospitals or medical help.
Have a backup contingency plan.
Have rescue equipment on hand.
Have a sense of humour and fun.
Know their limits and the limits of the group.
Know how to rescue someone.
Show leadership.

The groups were then asked what they expected of their fellow trip members.

Replies from Group One.

Be able to follow instructions
Be physically capable.
Willing to speak up when hurt of afraid.
Be honest about medical conditions.
Have a degree of self-reliance.
Be a team player, don't endanger others.
Be interested in caving, not just there for the rocks, or the fossils or the ropes or because of something else.
Have adequate equipment/clothing/food/ water.
Awareness of the space around them.
Keen to learn the skill required.
Got to be OK with mud, dirt.
Not claustrophobic.

Replies from Group Two

Be respectful.
Have a first aid kit.
Have food, water.
Display common decency.
No panicking.
Have spare stuff, e.g., backup lights, spare thermal.
Be self-reliant.
Pay attention to cave detail.
Have a basic escape plan.
Good sense of adventure.
Team work.
Be communicative, speak up.
Know or be prepared for some form of rescue: equipment matters!

On the appointed weekend in September, twenty one cavers from the three SA caving clubs turned up to practice numerous scenarios with the aim of gaining some idea of what is involved in cave rescue.

JOINT SA CAVING CLUBS S&R PRACTICE WEEKEND

Clare Buswell was in charge of the cave rescue scenarios. Matt Smith was in charge of logistics.

Participants:
Clare Buswell, Heiko Maurer, Thomas Varga, Neville Skinner, Tania Wilson, David Mansueto, Dee Trewartha, Matt Timms, Edwina Virgo, Ian Macleod, Matt Smith, Heather Siebert, Matt Grey, Callum Hue, Joel Dillon.

Present for the Saturday Only: Daniel Heritage, Steve Minuzzo, Mark Corbett, Michael Woodward, Matt Warne.

Present for Sunday morning: Ian Lewis.

Overall aims of the Weekend:

- As a reasonable amount of caving in SA is done in remote locations: Nullarbor, Flinders Ranges — the aim was to get participants to understand what *they can do* in self-rescue situations, that is without help from outside agencies or whilst waiting for outside agencies to arrive.

- Participants were asked to work with people they did not know, as this is what happens in live cave rescue situations.
- Activities were rotated between small groups so that all members got to play with the equipment used and understand the techniques to be used so that they become familiar with what is involved in caver rescues.

Programme:

The weekend was divided into 4 sessions: Saturday: Small group exercises involving stretchers and communication systems, then an 'in real-time' rescue exercise followed by a debrief session. Start time 10am. Finished all the exercises around 4pm. Debrief held at 5.30pm. Pub meal 7pm.

Sunday: A second scenario, searching for a lost group was prepared in advance. However, this was changed as those involved wanted to play again with the different communications systems available and gain more stretcher carrying experience, both above and below ground. To facilitate the latter, the group set up their own rescue scenario and worked to remove the casualty from the cave. This was followed by a debrief.

SCENARIOS SATURDAY MORNING

To facilitate these aims the Saturday morning was given over to 4 exercises, with the four groups rotating between each one.

1) Communications: Through ground radio system

- "Your group has been asked to establish a communication system using a through ground radio system. This is a system that you have only heard about. You have half an hour to set it up and learn how it works."

2) Communications: Using what you have – Walkie Talkies

- "Your group has been asked to establish a communication system using the walkie talkies you carry with you, so you can talk with others whilst travelling. You have half an hour to set up a communication system with the walkie talkies underground. Your group is required to test it over varying distances to establish its reliability. When you have completed the task, you are to report back to the command post. (Five Uniden 5-watt, walkie talkies are available)."

3) Communications: Michie phones

- "Your group has been asked to establish a communication system using the Michie phone system. It is a system that you have only heard about. You have half an hour to set it up and learn how it works, ABOVE GROUND."

4) Build a stretcher

- "There has been an accident at Skeleton Crevasse which requires complex medical and logistical rescue processes to be able to set about stabilizing the casualty.
  Your group has been tasked with providing a stretcher, built from things you have in your car/camp area. You have half an hour to build and test it before it will be deployed."

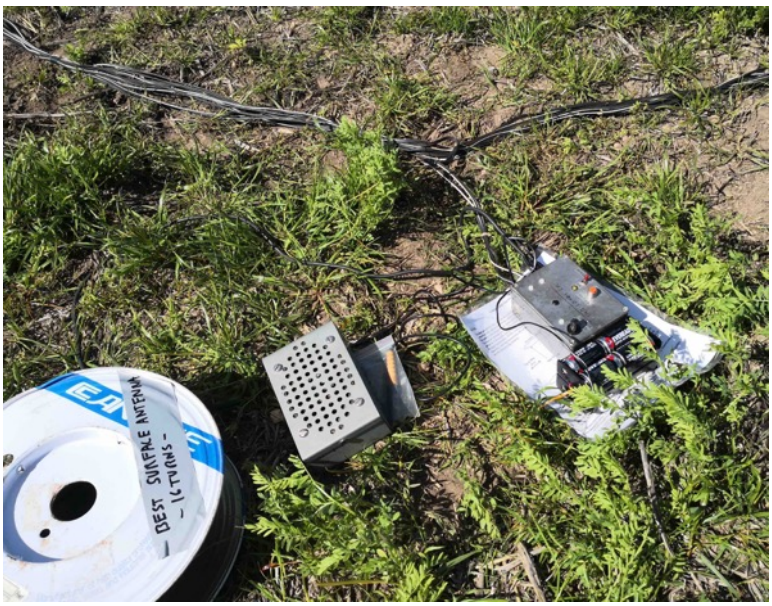
Notes and Feedback from these activities by those who participated.

FEEDBACK:

1) COMMUNCAITION SYSTEMS

Group set up COMMs equipment again both inside and outside the cave.

Through-Ground Radio: (Photo at right)



- Tested coverage from the bottom of the entrance stairs to Grand Central. Grand Central gave OK coverage. The restriction being not able to lay the coil out in a wide circle underground.
- Need to identify surface locations in relation to underground location.
- Subsequent group found system surprisingly tolerant to alignment offset and, moving the surface coil while receiving transmissions, allowed tuning placement to get clearest signal.

Michie phones:
On the phones themselves:

- Have a simple ready-to-go splice-in system.
- Set up an external speaker line and a permanently connectable earthing system.
- Is it possible to put an earth holder on the phone?
- Is it possible to put splice clips, to clip onto the wire mid-way?
- Connect permanent handset for easier use.
- Michie phones were again used in the same area as the previous day's rescue simulation and found to be working very well, due in part to less noise, as only those working on the phones were present. On the Saturday, at the rescue itself, the back chatter between cavers caused the phones to be deemed very hard to hear.

Walkie Talkies: Five, hand held, 5-watt Uniden UHF – CB radio units were used.

- These proved to be the most useful during the actual rescue simulation as we were able to relay communications between the surface and the site of the accident at the bottom of Rope Crevasse.

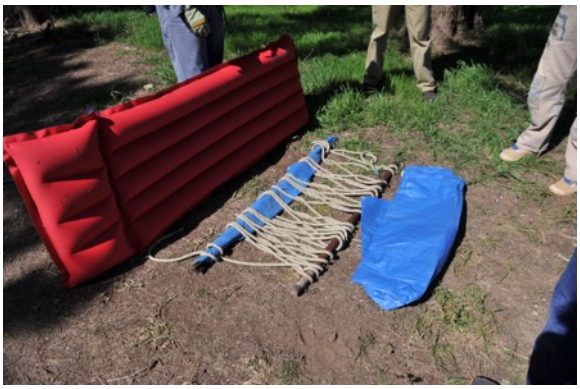
- CB Radio seemed to work quite well, which combined with the casualty being relatively close to the entrance, made the Michie radio somewhat redundant.

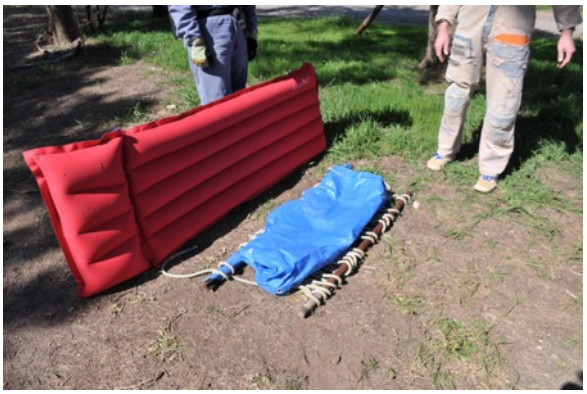
- Really surprised that Walkie Talkies would work underground, not only at all, but so effectively! That is from the bottom of Rope Crevasse to the car parking area above the entrance. This is not line of site!

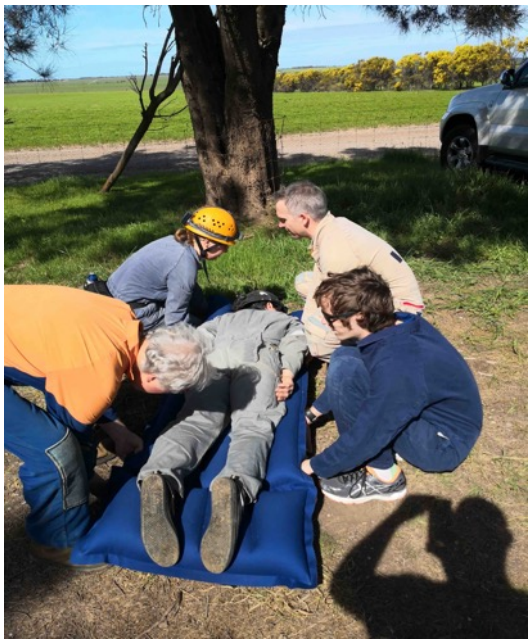
General Comments on Communication systems.

- Saturday's rescue, using a large rescue group in a relatively confined part of the cave, also made communication difficult - some "Chinese whispers".
- Communications much smoother with less people in the team on the Sunday.
- More practice time needs to be given to each individual to use the communication tools present.
- Good approach with having multiple communication options, however, once in use, one communication system should have been chosen.
- Michie phones too quiet.
- Enjoyed morning round-robin activities, getting to know this equipment.

Stretchers. Build your own. Cavers generally do not take any sort of rescue equipment on their weekend caving trips so this exercise is a DIY job!







Above and at left: just one example of the 'Do it Yourself Stretcher'. Made with materials available from your camping gear or scrounged nearby.

In this example: A cheap trap, a stick, a fence post, a lilo and a short length of rope.

Photos Neville Skinner and Matt Smith.

JOINT SA CAVING CLUBS S&R PRACTICE WEEKEND

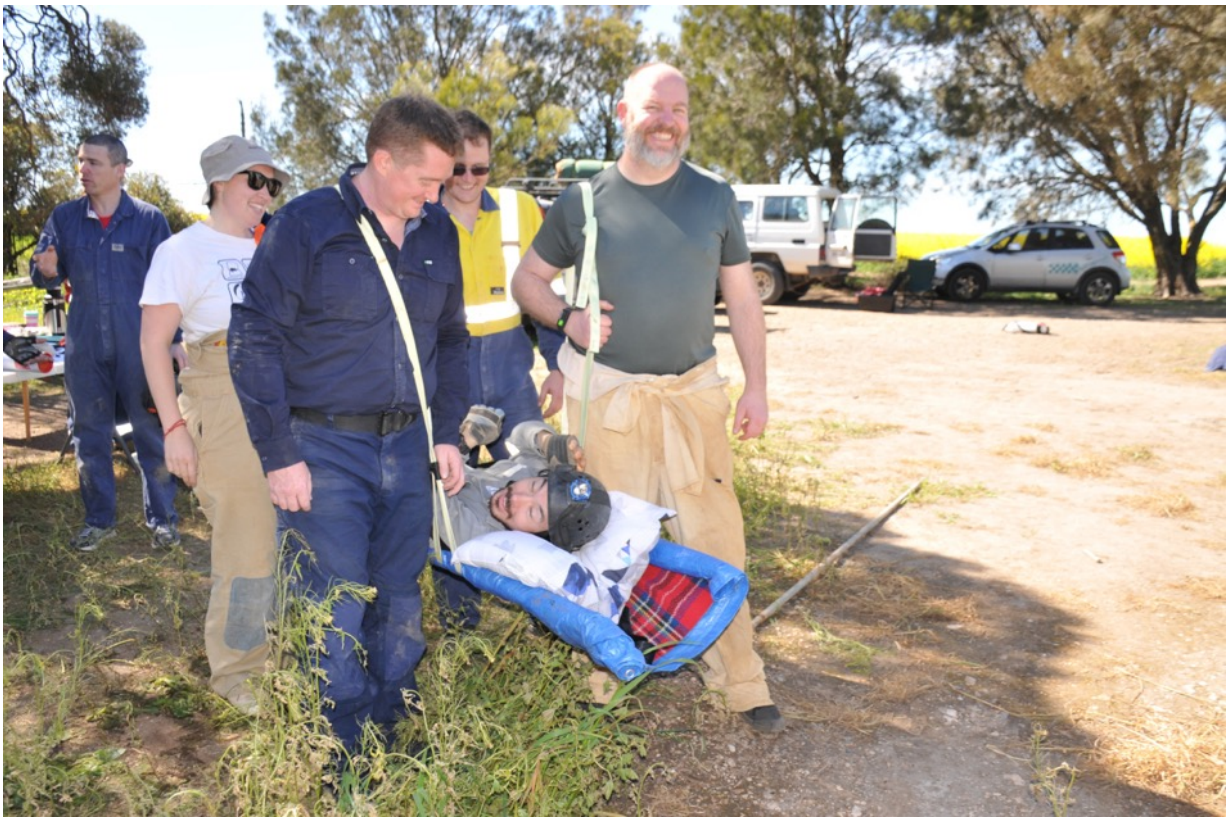
At Right: Yet another example of the DIY Stretcher:

Tarp, sticks, one-inch tube tape and 50mm seatbelt tape.

Below: A comfortable stretcher, both for carrying and for the patient. It has good back support for all.

Materials: Tarp, picnic blanket, Pillow, One-inch tube tape for back support.

Photos Neville Skinner



THE IN REAL-TIME RESCUE EXERCISE

The Scenario:

A group had successfully made their way out to Skeleton Crevasse, and then back to the Wombat Runs and out to near Crystal Maze. At this point, in attempting to climb up, one member of the party fell.

It is not known what the injuries are.

Being in the region, you are called upon to find and rescue the missing person.

JOINT SA CAVING CLUBS S&R PRACTICE WEEKEND

SCOPE

The exercise will require the participants to:

- Work in teams of 5 people.
- Appoint a controller.
- Ensure the safety and well-being of other participants.
- Obtain and organise the necessary equipment.
- Set up COMMs to assist with the rescue.
- Locate, assess and manage the casualty.
- Extricate the casualty from the cave.
- Accurately record pertinent details that may be required at any subsequent inquest/inquiry.

General Comments on the Exercise by the Participants

- Need for clear role definitions, written descriptions.
- Need for entry control and compliance by all team members. Sign-in sheet was not signed by all.
- Cooperation and communication between groups when switching roles/duties needs to be clear, follow a set protocol.
- Clearly designate a leader of each subgroup.
- Chain of command needs to be respected.
- Leader must lead: control what goes on and direct each group. It is not a free-for-all.
- Need to have the less experienced at the coal face, to give them experience.
- Too many people around the casualty.
- Too many questions about the casualty, too frequently.

Haul crew at work.
Photo: Neville Skinner

The Patient's feedback:

- Be aware that a patient hears everything.
- Other senses are heightened when you are a patient.
- Calls: Make one call and make it only when you are going to execute it. Then execute the call.
- Design of [Petzl Nest] stretcher: vertical haul line pulls on the harness [connected to patient's waist]. No taunt lines until the call to lift or move. And then only slow movements, as fast movements can cause pressure points.
- Be mindful.
- Tell the casualty if you are going to cross over them but do this via the medics.
- Keep all lights away from the patient's eyes.
- Avoid touching the patient, don't lean over them or use them to stabilize yourself.

- Do not use the handles of the stretcher to stabilize yourself.
- Take time to do things as you will then be in control of any haul, lift etc.
- No chatter.
- Patient felt rub points when stretcher hauled over rocks.
- Stretcher rocks and rolls when not holding handles.
- Stretcher was warm to be in.
- Stretcher needs to have a face shield, as distinct from just safety glasses, and helmet for casualty.

Feedback for future exercise planning

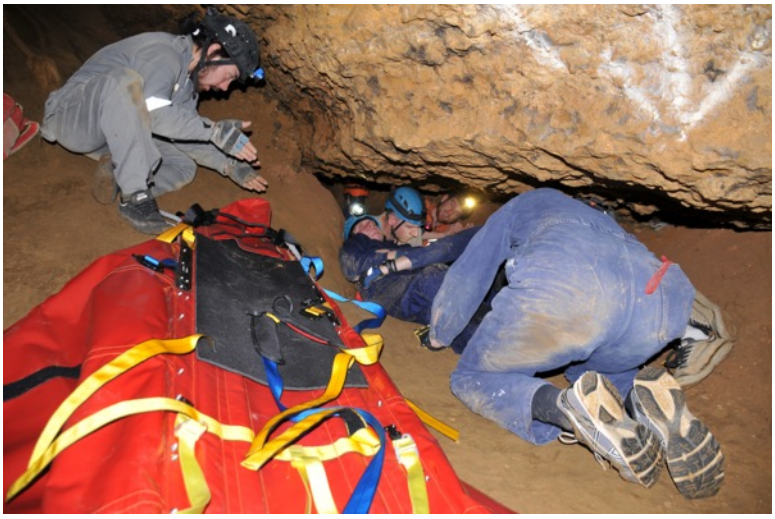
These suggestions came through frequently from the feedback sheets provided.

- Appointment of leaders and leadership structure needs to be made clear.
- Purpose of the exercises needs to be made clear: orientation vs rescue.
    - What is realistic: would we or wouldn't we perform an extraction without other agencies calling the shots?
    - Are we improving our self-sufficiency in rescuing ourselves: assessment, support, reduce exposure or are we part of a bigger rescue operation?
- Timelines need to be adhered to by all.
- Incident controller, person on the surface and the underground controller need to communicate.
- More rotation of people between tasks – more experience gained.
- Exercise began to break the ice between the three caving groups. It was a good opportunity to work together.
- Needs to be repeated at least once a year.
- Need to make strong, open and usable contacts and communications between outside agencies: SES, SAPOL Star Force, SAAS Special Operations Team.

MATT TIMMS' REPORT

The search and rescue training weekend began with some warm up exercises to get us in the zone. Members of FUSSI, SCG, CEGSA, with some members having professional medical experience, were mixed into 4 groups. One challenge was to build a stretcher from items only found within our gear and cars. A diverse range of items and methods were used. My group found seatbelt webbing and tube tape to be an effective net that was wrapped in a tarp with foam mats as support, however it lacked a bit in rigidity.

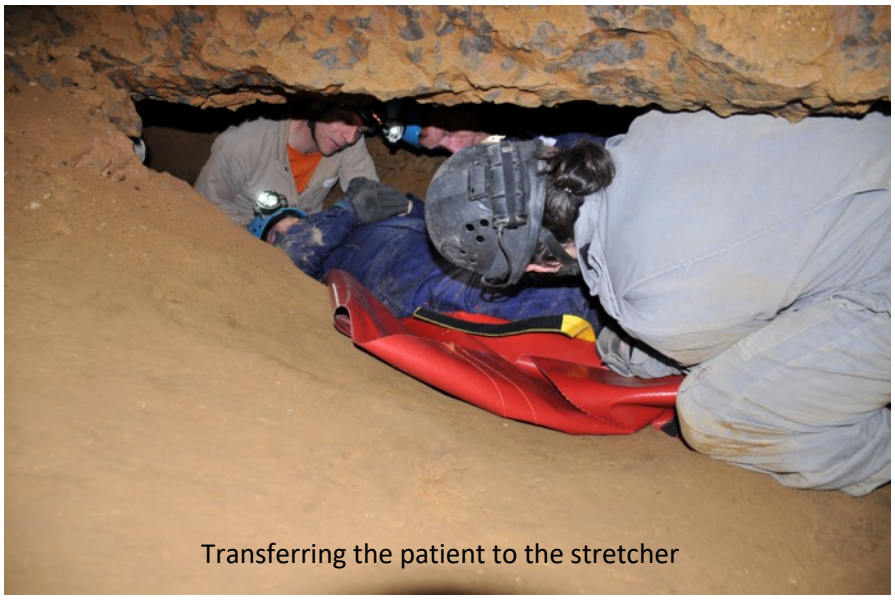
Below: Finding the patient and planning on how to transfer patient to the stretcher.



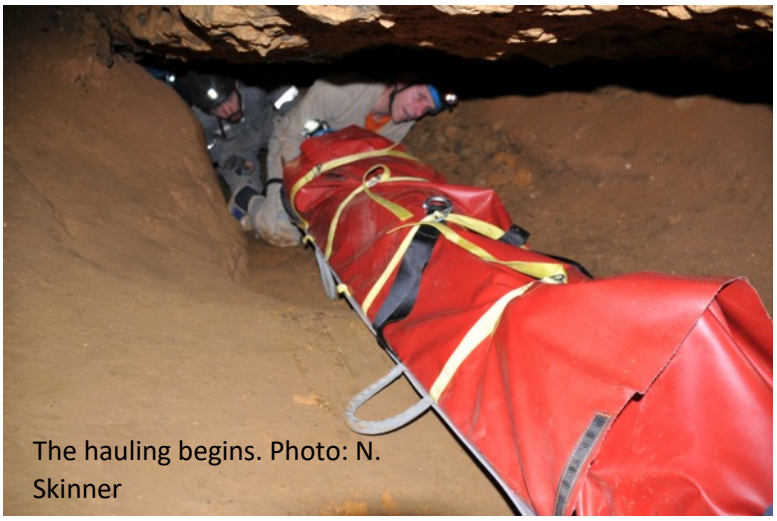
Groups also tested the range of handheld radios in Corra-Lynn cave and how far a chain of them could

reach. I was surprised by the range, as it wasn't simply line of sight, with some reflection around corners. With 4 or 5 walkie-talkies in a chain we managed to get a fair way towards Rope crevasse. This required effective radio communications, as the message had to be sent to each node. We had two other comms equipment to play with: Michie phones and a through-ground radio which were both simple to set up. The Michie phones were a bit quiet above ground but clearer in the cave, and the through-ground radio had a larger range than I expected. I can see how these technologies could be invaluable in a real situation.

The real-time rescue began after lunch, where I was stationed above ground to keep record of caver movements and think about in a real situation how to talk to emergency services and deal with the public. Other surface crew members coordinated with search teams into the cave looking for the victim with the stretcher team on standby. This made the situation feel quite realistic, and before long a serious, determined mood fell upon us. It wasn't long before the victim was found, and with no delay the stretcher and Michie phone line were deployed. After the victim was placed on the stretcher, the long process of hauling began, and I went underground to help. The most difficult part was a narrow rift that was incredibly steep. This took rigging (but was not used), lots of haulers, concentration and precision. It was such a precarious haul that it was practiced with bags on the stretcher before using the brave victim in the stretcher.



Transferring the patient to the stretcher



The hauling begins. Photo: N. Skinner

A well-coordinated effort resulted in the victim on top of the slope, but with the hardest part done, we were still far from the surface. The stretcher had to be navigated up a shallower slope covered in loose dirt and through a narrow passage. Each move was thought out one at a time, taking a long time to get a short distance. Eventually we got near the entry and had space to stand up and do pass-overs towards and up the stairs, out the door and up the outside steps. As the passageways were narrow, the chain haulers at the back crawled under the stretcher to get to the front of the chain. Sunlight and fresh air were pleasantries on the sweaty, dirty faces, and once the victim was safely at the cars it was time to sit and lay on the ground for a bit.

JOINT SA CAVING CLUBS S&R PRACTICE WEEKEND

Sunday began with a yummy BBQ breakfast served by the Scout Caving Group. The second real-time rescue had less people present, as a few had to leave Saturday night, so there was no comms equipment used. After finding the noisy victim, who was obviously in great pain, most of the time was spent together as one hauling team. A smaller group meant more work for each individual and pass-over chains were smaller. Multiple hauling techniques were used including pulling the stretcher up a smooth slope with a rope, and an interesting one that involved haulers laying on their backs in a line head-to-toe very closely packed together. You passed the stretcher from the person that had head their head in your crotch to the person whose crotch your head was in. This worked alright until we tried using knees to support the stretcher, and my long legs threw everything off, unevenly lifting the stretcher such that it slid off our hands and knees. Luckily our victim had no spinal injuries and wasn't too battered by this. A long but well executed haul got the victim the rest of the way out of the cave without too much damage. Another debrief was done, where we discussed what worked and what didn't. We found that pass-overs were done better the second time, most likely because we had more practice by then, and the laying on our backs hauling technique could be viable in some situations but should be done so with caution.


Passing the patient up the rift.
Photo N. Skinner


Almost at the top of the rift.
Photo N. Skinner

Our victim this time taught us about some good in-cave bedside manners including informing the patient of every movement and touch that was going to happen, to avoid shining lights into their face and climbing over them (hard to not do sometimes though). We found that the stretcher was susceptible to some flexing when placed on some surfaces, and bumps and rocks were felt through the stretcher. All these things were good to talk about and consider in an actual rescue.

The search and rescue weekend was an amazing experience and great practice for a real SAR operation. I have not had any rescue or emergency training but even just after this weekend I feel somewhat prepared for an incident and am more conscious of preventing one occurring in

the first place. When caving with a small group, it would be very hard to extract a member. I think differently about caving now. I think it would be beneficial to skills and inter-organizational relationships to do this sort of thing regularly.

Photos from the Exercise

Planning and executing the lift up the crevasse. All photo's N Skinner.

JOINT SA CAVING CLUBS S&R PRACTICE WEEKEND

Almost there.

At right: Coming up the steps near the entrance.

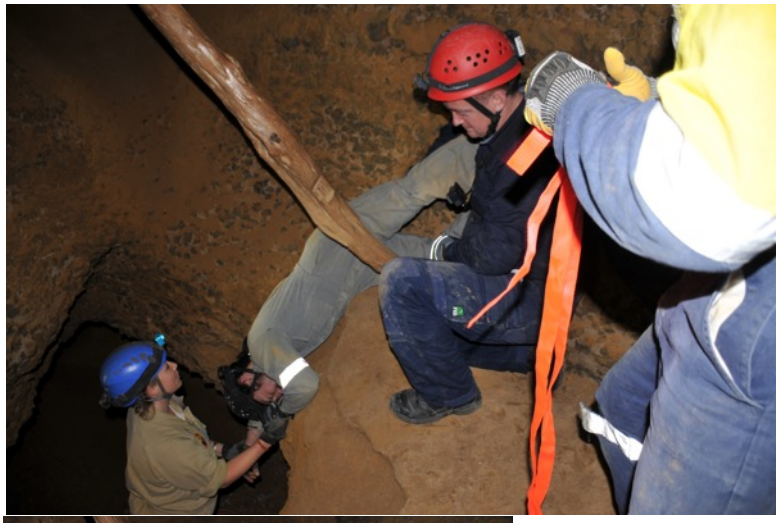
Below: On the surface where our marvellously patient Tania was extracted from Nesty!

SUNDAY'S RESCUE. Site: At the Cauldron, Corra Lynn Cave

Callum was the injured person. Medics were three real medics: Nurse, SA Ambulance Paramedic and SASS Volunteer Ambulance Officer. Edwina was the incident controller. Everybody else acted as the haul crew. We did not set up any communication systems.

The below series of photos tells the story!

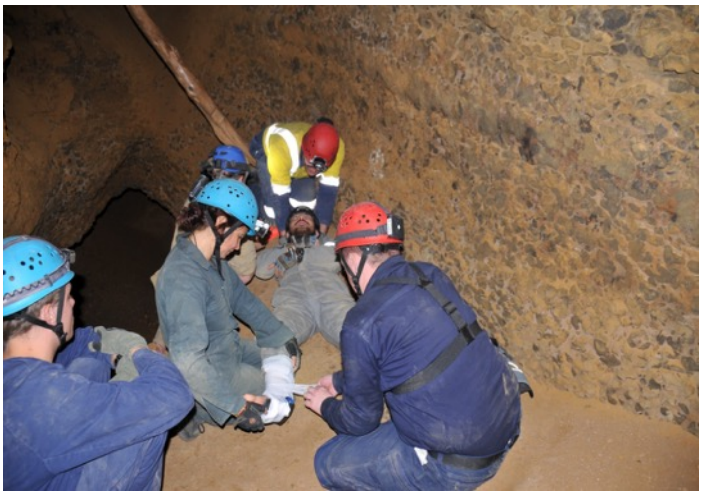
JOINT SA CAVING CLUBS S&R PRACTICE WEEKEND

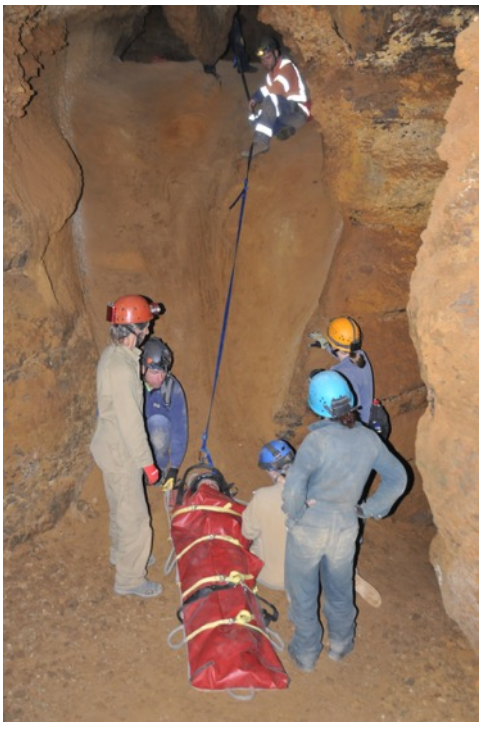


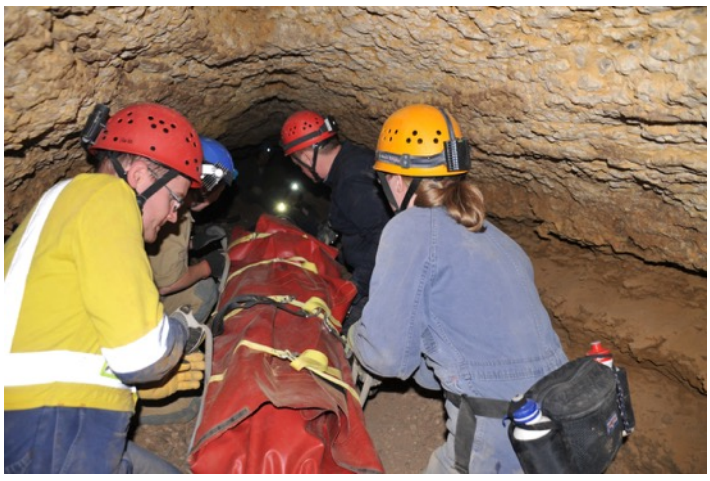
Our injured party is found and the Medics have been called.

Injuries –make your own list!

Hualing included traversing a steep slope and negotiating narrow, low passages.







FUSSI PROGRAMME Dec 2018- May 2019

***Note**: FUSSI holds a general get together/meeting on the Third Thursday of each month, except where notified otherwise. Programme subject to change.*

30 Dec-Jan 6th Australian Speleological Federation Conference. Devonport, Tassie.

Feb 3rd Sunday11am-6pm		New Year's gathering, FUSSI T-Shirt making. Discussion of plans for world take-over etc.
Feb 9-10		Wet and Wild trip. Mt Gambier Area. Thomas coordinating.
Thurs Feb 14	General Meeting, 6pm,	Morialta Cliffs, at the second climbing area, followed by a beer in the Scenic Hotel.

O Week 25th – 29th Feb 2019

Tue Feb 26 and Wed 27	Fair Days	FUSSI Stalls on campus. Help is needed. Put your hand up and help your club get new members. Contact: David via: fussi@fussi.org.au

FIRST SEMESTER STARTS

Sunday March 3rd		Murray River trip. A trip for everyone. Thomas coordinating.
March 16/17		Naracoorte. RSVP by 14 Feb. Permits have to be submitted a month in advance. Clare coordinating.
Thurs 21 March:	Social Meeting	How to use a map and compass. In the Uni Forest. 6pm sharp. Tania Coordinating.
April 7	One day Trip	Yorke Peninsula. Dee Coordinating.
April 19-22 Easter		To be determined. See below on long term trips.
May 11-12		Flinders Ranges Trip. Great trip suitable for all.
Thurs 16th May	AGM	Win the lottery and add some impressive roles to your CV.

For the long term.

Nullarbor, WA side, Easter or Uni Hols 2019. Tentative at this stage.
July 2019. Bullita, NT by invitation only, from the organizers.

ASF run South Australian Caver Rescue training weekend to be held Mid Sept, Mairs Cave. 2019. It may well cover, bolting, hauling, tyroleans, stretcher lifts, maybe self-rescues from a rope and eating chocolate.
All cavers from all SA Clubs welcome.