Waterhouse Club Nullarbor Caves Expedition
8th September to 15th September 2026
Expedition Leaders' Report

The purposes of the expedition

The Nullarbor caves are internationally renowned places where you can find evidence of past and present biodiversity, including rare and highly specialised insect and spider species. They are also repositories of bones and fossils, which tell us a great deal about past and present biodiversity.

The lead scientists, Drs Liz Reed and Jess Marsh, asked the Waterhouse Club to facilitate an expedition to the region where they would be able to make observations, look for known and new species, collect specimens and check the condition of the caves.

Dr Shasta Henry joined the expedition to look for invertebrate species around the cave mouths and beyond.

For the expeditioners, it was an opportunity to visit caves that are only accessible with permission from the Traditional Owners and approved scientific permits, to see extremely rare invertebrates and gain insight into the geological and faunal history of the region.

Expert cavers Dr Steve Milner and Andrew Stempel were commissioned by the lead scientists to assist by locating the cave entrances and ensuring safe access by expeditioners and scientists.

Central to the success of the expedition was Cultural Monitor Mirning Traditional Owner Clem Lawrie. As a very senior Mirning Elder and Co-Chair of the Nullarbor Parks Advisory Committee, he supervised access to the caves, explained and interpreted cultural objects and monitored the expedition from the perspective of Mirning history and lore.

Marketing the expedition

The expedition was marketed through the Club's published program and word of mouth. Similarly, within the scientific community, the word spread and the scientific team grew from the two lead scientists to include Adj. Assoc. Prof. Geoff Allen (UTas), Mr Steve Bourne (General Manager Limestone Coast Landscape Board - AU volunteer), Prof. Steve Cooper (AU/SAM), and Assoc. Prof. Diego García-Bellido (AU/SAM), Dr Tiah Bampton (AU) and Dr Shasta Henry (SAM).

The timing of the expedition

The expedition was originally intended for Spring 2025 but was rescheduled to September 2026. September was chosen as a sweet spot when the weather was likely to be clement, plants would be flowering, insects and reptiles would be moving about, and the tracks would be dry enough for expedition vehicles to traverse without damaging them.

A summary of the activities – day-by-day

Note: Due to the overriding need to protect the caves from unauthorised access, the names of the caves may not be included.

Monday 7th September
The advance party arrived at Nullarbor Roadhouse in the early afternoon. We were met by the manager, Tia Gable, with whom we'd been working for months. Tia presented as organised and efficient and proved to be so throughout the expedition.

It was raining, and the weather outlook was not promising. Clem Lawrie was clear that we could not damage the tracks by driving a convoy over them, and cave access was difficult enough without being wet and slippery.

Tuesday 8th September
We woke to another wet day, and it was looking to be wet for some days. With expeditioners due to arrive in the afternoon around 4 pm, we spent time preparing schedule whiteboards and sorting expeditioner food choices with the kitchen staff. We realised that we would need to remind people about the food they'd ordered weeks before. The first meal portions were enormous, and we let the staff know the servings needed to be significantly reduced as we were concerned about food waste.

We also set up the PA system and projector screen and planned the introductory/welcome meeting with the expeditioners.

By 4 pm, most of the expeditioners had arrived, and they were checking in and setting up their rooms. We worked on the scheduling sheets and other matters that needed to be dealt with for the first evening meeting. We met at 5 pm for drinks, and then the introductions from the scientist and our cultural monitor. We outlined the Club's safety expectations, followed by Dr Steve Milner, who explained the safety requirements as they related to caving. During the first evening meal, the atmosphere was one of barely repressed excitement.

The weather continued to be wet, overcast and cool, but at about 9 pm a small breeze sprang up, and we hoped that it would help to dry out the tracks for the following day.

The immediate bird count around the roadhouse included Little Button Quail, a Spotted Harrier, White-browed Babblers, Nankeen Kestrels, Australian Ravens, Willie Wagtails, and Magpie Larks. A pair of Australian Hobbys nested very close to the Roadhouse, and their antics provided great entertainment during the expedition, as long as you didn't mind their habit of snacking on White-winged Fairy Wrens. The Hobbys' chicks were being eyed off by a Black-breasted Buzzard (rare in these parts), and its presence triggered an aerial battle as the furious Hobbys swooped and harassed the larger bird.

Wednesday, 9th September
After another cold, windy night, we had the breakfast meeting, and then we convoyed out to the Head of the Bight to see the Southern Right Whale nursery. There was a strong onshore wind, and between dodging the showers, we enjoyed good views of whales and their calves, particularly late morning, when the whales came very close to the shore, and the calves were breaching and frolicking around.

After lunch, we went out to a small cave about 10 km east of the roadhouse and peered into it from a distance. Plants, lichens, orchids and a range of invertebrates were found, and expeditioners were keen to find what was living around the cave's surface. The scientists told us that Nankeen Kestrels are reliable indicators of the location of cave systems because they like to nest in them and they don't mind nesting on rocky shelves or require any kind of vegetation to build their nests. Steve Bourne explained the features of the cave.

After dinner that night, Jess Marsh gave a passionate presentation on the extraordinary creatures that she had found in caves, including desiccated insects that were up to 11,000 years old and other unique blind cave-dwelling invertebrates.

Thursday, 10th September
We departed at about 8.15 am for a cluster of three caves about 15 km northwest of the roadhouse. The first cave we were able to enter without needing any climbing equipment, but we were given equipment such as helmets with torches, and advised to wear gaiters, strong shoes, and high-viz vests. The name of the cave relates to the hand stencils found inside, including children's.

Clem said the stencils, which could be ancient, were made by mixing water, emu fat, and ochre, and then spraying it over the back of the hand by mouth. It was poignant to see children's art, which had been there for such a long time.

The second cave required a ladder descent about six metres into an open cave collapse, and that was also very interesting. There were nesting birds, including a very old Willy Wagtail nest, a Welcome Swallow nest, and on a ledge we could see a Kestrel nest.

It was a long day but a good one. We were still tweaking our systems around scheduling cars and activities to ensure, as far as possible, equal access to the caves and equal demands on the expeditioners' vehicles. The scientists seemed happy and satisfied, and the expeditioners we felt were getting good value.

In the evening, Tiah Bampton spoke about the use of stable isotopes as markers for many aspects of past animal diet and habitat. For such an arcane and technical topic, Tiah's presentation was a masterclass in science communication. She was clear and confident, and the PowerPoint animations were spare and uncluttered.

New birds seen were the Crimson Chat and the Brown Song Lark.

Friday, 11th September
The day started cold and wet, and we were concerned about damaging the tracks so Steve Milner and Clem made a recce and declared the tracks were ok to drive on. We left at 9.15 am instead of the usual 8.15 am. The weather cleared, and we drove for about an hour across the Nullarbor to two caves. One required access via a 12-metre ladder, and the focus of that cave was bones and fossils. The other half of the group drove a short distance to a cave where we discovered two types of cave spider and photographed them. That was a very special moment as these spiders are extremely rare.

The spider cave was too small to accommodate any more than six people, so the other half of the group collected insects on the surface, guided by Shasta Henry and Geoff Allen.

By this time we had established a regular 5.30 pm meeting with the scientific leadership group (Jess, Liz and Steve Milner) to determine what to do the following day. These meetings smoothed the organisation of the expedition.

Friday night was party night where people came dressed up in the theme of caving (notable outfits were those of Geoff Neumann, Helly Manthorpe and Kathleen Cunningham). David Cox, who has a fine singing voice, played the guitar and sang a song by Nick Cave.

We had two excellent presentations, one by Steve Milner about his jaw-dropping exploration of the caves on the face of the cliffs overlooking the Bight, which included some extraordinary feats of abseiling into caves hundreds of feet above the ocean.

Andrew Stempel also made a presentation about his caving experiences and his life more generally, but the most remarkable part of his presentation was his involvement in the mapping of the Goat Cave, a huge cave complex of vast galleries linked by small tunnels. The galleries are full of salt and other mineral features which are strange and beautiful. He also found desiccated animals, some thought to be thousands of years old, but still preserved. The strangest was a large chamber full of dead male cave spiders, which presents a puzzle that will probably never be resolved, as these spiders normally are solitary. Finding thousands of dead male spiders in a relatively small space is a deep mystery.

Saturday, 12th September
Saturday was a cloudy but warm day with a maximum in the low 30s. We drove out to another pair of caves. We organised the groups into the same groups as Friday, but as we only had one cave that we could access at a time, people spent more time on the surface, and we needed to closely monitor the time to ensure that everyone had relatively equal access. Both Shasta and Geoff Allen provided expeditioners with nets and guidance and there were collections made of a range of invertebrates, including butterflies, crickets, spiders, and beetles.

The cave had hand stencils, fossilised shells, and a spider that looked a bit like a harvestman, species name Opiliones. There were ancient owl pellets on the floor.

Expeditioners on the surface also observed birds, including the Crimson Chat, White-winged Fairy Wren, Wedgetail Eagle and Brown Song lark. We then drove to the second cave.

We thought that was going to be a fairly straightforward 8 km drive, but in fact it was almost another hour in the car, and the tracks were quite faint, so we had to rely on Steve Milner's navigation skills. This cave also had a steep entrance. The main interest in that cave was the collection of small bones from very old owl pellets. In these pellets were the bones of small mammals that no longer exist on the Nullarbor. Tiah Bampton was very pleased and excited.

It was another big day. We drove back along the old Nullarbor Highway until we intersected with the main highway, and arrived home at about 4:45 pm. The planning meeting was fairly brief as there was an agreement that we would go to a historic homestead and a large public cave about 120 km west. This would give the expeditioners a break because the previous two days had been quite physically intense, with the expeditioners also exposed to warm conditions, wind and up to four hours a day in jolting convoys. (As an aside, several expeditioners

remarked how much they'd enjoyed the convoys, since they spent extended time getting to know each other.)

In the evening, we had two presentations, a short one by Jess and Clem talking about a tropical bailer shell found in one of the caves. Clem believed that the shell had been traded for flint tools because that kind of shell is not found locally. It is likely that indigenous people were living in this cave, or at least visiting the cave and using the shell to collect water that collected in the cave. The shell was to be replaced where it was found. Some unknown scat has been found at his site. Investigations will be made over the coming weeks.

Following Jess and Clem, Diego provided a comprehensive overview of the geological history of the area. This gave us an important foundation for understanding the geology of what we saw during the rest of the trip.

After the evening meal, most of the group went outside to see the white sheet set up by Shasta and Geoff A to attract insects for her research. There were hundreds of moths, spiders and other invertebrates.

Sunday, 24th September
Koonalda Homestead is about 125 km west of Nullarbor Roadhouse. We had a slightly later start on a beautiful, sunny day and drove to a lookout where we observed the Bunda cliffs stretching into the distance, shrouded in sea mist. When we arrived at the homestead, it was as if it had only recently been abandoned. Near the old homestead was a very interesting graveyard of 40 or 50 old cars: Humbers, Hillmans, Vauxhalls, Fords, Holdens, a Mini, among many others.

Nearby there was a blowhole, which is created by changes in air pressure between a large cave and the surface pressure, but because we had a high-pressure system, the blowhole was actually more like a suckhole, and we had some fun with a piece of grass, watching it being drawn down towards the bowels of the Earth.

We then drove to an immense cave about 8 km away. The cave had been fenced off and set up with security cameras to prevent vandalism. The entrance was a giant hole about half the size of a football oval, and was once a source of water for the homestead. We heard a short talk by Clem about the cave's history and then walked down to and around its rim.

We then returned to the homestead for lunch, and people looked at other buildings, including the shearing shed. We saw several birds of prey, including Spotted Harriers, Wedge-tailed eagles, a Black Kite and various smaller birds.

After lunch, we visited a cave that is very important culturally and scientifically.

In the evening we had two presentations: a short one by Jess about their discoveries in a cave that a small party of scientists visited during the morning, and then a longer talk by Liz about the Nullarbor animals and particularly animal extinction. Like all the other presentations, it was exceptionally interesting and very well received.

Monday, 14th September
It was planned to visit three caves. It was another warm, sunny day, and we convoyed out to the first of these caves. On the way, we saw several animals

and birds, including a large Mulga snake (sadly, it was injured), a pair of Bustards, and a nesting Spotted Harrier. Its nest was a large, low structure a metre or so above the ground.

The original intention was to divide the expeditioners into three groups and for them to rotate through each of the three caves, but it was decided that all three groups should go through each cave in sequence, with each group taking about 30 minutes.

The first was a small, beautiful cave with an interesting entrance into a chamber and a crawl through into a larger chamber, which contained cave spiders and some domes with handprints. It was a challenging access, but all the expeditioners managed to get through to the rear chamber.

We then drove about half an hour drive to the second cave. The surface area around the cave was dotted with shallow pools, and there were Crimson Chats and other birds, such as Zebra Finches, drinking there. The entrance went past an active Kestrel nest, through a low archway and into two chambers.

All the expeditioners were becoming more confident with their ability to get in and out of caves, and to feel more at home in this kind of environment.

It became clear that going to the third cave would mean a very late finish to the afternoon, and as we'd only committed to visiting two caves that day, the expeditioners seemed very satisfied with what they'd experienced, so we convoyed back to the roadhouse.

On the convoy back we saw several Sleepy Lizards, a small Brown Snake and sadly the now-dead Mulga Snake. We stopped at a wombat warren to collect wombat scat because Hughes brothers wanted to see what it looked like – it's cubic.

The evening presentation was delivered by Steve Cooper; a history of his involvement in decades of studying small invertebrates that live in groundwater in various parts of Australia, including Western Australia. Following Steve's presentation, Shasta Henry presented on her PhD studies of the effects of fire on invertebrate variety and quantity in Mount Field National Park in Tasmania.

The expedition concluded with Rose and Alastair thanking the Clem, the scientists and expeditioners. Mark Mussared thanked the expedition leaders. Mark Mackintosh proposed a vote of thanks for the roadhouse staff who came out of the kitchen to receive applause. We tipped them in appreciation of what they did for us during the week we were there.

Overall, the expedition met its goals of being useful scientifically and an enjoyable experience for the expeditioners. Considering the age and stage of many of our expeditioners, it was admirable that they continued to challenge themselves physically and mentally over several quite arduous days in completely alien spaces.

The food and accommodation were quite adequate considering the remote location. We were very impressed with the young people who staffed the roadhouse, and we wrote to the manager as follows: *Your staff were a credit both as employees of the Nullarbor Roadhouse and as citizens of their home countries. They were polite, cheerful, observant and responsive, and our expeditioners really appreciated them. The kitchen*

and waiting staff rose to the challenge of working out who had ordered what dishes, and quickly solved problems. There were moments when the many charming accents gave our meals a truly international flavour. We were also impressed with how multi-skilled these young people are, especially as they have to learn new skills and take responsibility quickly (and understand Australian English!).

The scientific team grew from two (plus the two expert cavers) to seven as the scientific community became aware of the expedition. The size and scope of the team enriched the expedition through the evening presentations, provided additional expertise on the surface of the Plain, and more help for the expeditioners in the caves. Diego also took responsibility for polishing the expedition handbook and getting it printed – a bonus indeed.

Acknowledgements
We acknowledge the many wonderful contributions of the following people:

- Cultural Monitor and Mirning Elder Uncle Clem Lawrie
- Dr Jess Marsh
- Dr Liz Reed
- Adjunct Associate Professor Geoff Allen
- A/Professor Diego Garcia-Bellido
- Dr Steve Milner
- PhD student Andrew Stempel
- Mr Steve Bourne, General Manager, Limestone Coast Landscape Board
- Dr Tiah Bampton
- Dr Shasta Henry
- Nullarbor Manager Ms Tia Gable and her staff
- Hon Secretary Dr Sue McCoy
- Member Liaison Officer Ms Natalie Rollinson

Dr Alastair Dow
Mrs Rose Dow

Expedition Leaders
September 2026