

THE CHENRY CHRONICLE

By Christopher and Heather Henry

USS Blue Ridge



A model of the USS Blue Ridge.

Chris received an invitation in the mail from the US Counsel General and the Seventh Fleet to attend the reception on the USS Blue Ridge ship. What an experience! It started at 6:30pm in Brisbane near the sugar bulk dock. The ship had been on an exercise for three weeks with the Australian Navy. The ship just docked and had a huge reception inviting many Australian dignitaries and a few Americans. We were probably one of just a few Americans invited. There was a ceremony and the National Anthem was played. It has been a long time since we have heard that song. The US Counsel General and the Admiral cut the huge sheet cake with a sword. We met quite a few people from Brisbane and many of the crew who were stationed on the boat. We had a great time eating raw veggies and ranch dip. Australians don't really eat raw veggies. The Bud Light beer was available on board, which tastes very watered down compared to the Australian beer. It was nice to be on US ground, even for just a few hours. After talking with the US Counsel General, we learned that he grew up in Nebraska in the Sandhills (near Paxton) where his parents still live. What a small world it is.



Chris and the US Counsel General who is stationed in Sydney.

Kendo

Chris has taken up Kendo while here in Toowoomba, Australia. Kendo is one of the many arts of the Samurai, Kendo is the sport. Kendo is an old gentlemen's sport. There are several related arts, but Kendo is a contact sport where armor is worn and bamboo sticks are used in the place of real swords. Chris dresses up in armor every week to give it a go. To the untrained eye, it looks like a bunch of men trying to hit each other on the head with a stick, but it is a very difficult sport to learn because of the many intricacies and traditions. They meet on Sunday morning and Monday evenings.



Chris suited up during a Kendo practice.

Tambourine Mountains

The Tambourine Mountains are located south of Brisbane and west of the Gold Coast. In the Tambourine Mountains there is a distillery where we sampled all kinds of flavored liqueur. The bottles are from Italy and they are hand painted by his wife and daughter.

We stayed at a Bed and Breakfast and watched the sunset over the Lamington mountains. We spent the day in the Tambourine Mountains where we went on three different one hour hikes to water falls. The Cedar Creek falls was the best and the last hike we did for the day. It was so relaxing to hear the huge water fall.



Heather standing by the Cedar Creek Falls.



The Sunset view of the Lamington National Park from Mount Tambourine at our Bed and Breakfast balcony.

Footy Ball Game

We had the opportunity to go to an Australian Football Game. They call it footy ball. It is quite interesting and a fast game to watch. The players do not wear pads or protective gear at all. The ball looks like an American football.

Two points for getting in through the middle poles and one point for the side poles. After the game the fans are allowed on the field to toss around their own footy.



After the game we went out on the field too.

Tangalooma

Heather's family came to visit, Linda, Bob, Julie, (sister) and Ben. (brother-in-law). Our first trip was to Moreton Island where we stayed the night in a villa at the Tangalooma Resort. Moreton Island is a sand island like Fraser and North Stradbroke, which we have talked about in previous Chronicles. The island is pretty much run by the Resort, unless you chose to go camping and 4WD on your own. We spent the afternoon humpback whale watching. It was a great time for those who weren't sea sick. They feed you lunch right before they head out to sea. No wonder about 80% of the tourists get sea sick. You knew it was bad when the staff walk by and hand out motion sickness bags. The humpback whale migrates annually from the Antarctic waters. The value of the whale watching economy is several times more valuable, adjusted for inflation, than when the whales were commercially hunted in the 1950's.

Currently in the South Pacific there is great controversy about whale hunting. The Japanese recently lost a motion, by a very

narrow margin, in the IWC (International Whaling Commission) to remove the ban on whale hunting. However, they are still allowed to hunt and kill whales for “research” purposes. The number and amounts of whales taken under this program appear to most to be much more than needed for research purposes. Many of the whales are still considered to be endangered or threatened. Should the ban on commercial whale hunting be removed, the Australians believe it will dramatically impact the whale watching tourism industry. The whales are currently very accustomed to ships and allow them to follow them closely during their journey to the warmer waters. It appears very likely that the ban will be removed and it will be very difficult for tourists to see these magnificent creatures. You don’t see the whales jump out of the water (called breaching) all the time like the picture below since it is very energy intensive..



The Humpback Whale

Dolphin Feeding



The Bottlenose dolphin

There is a group of wild bottle nose dolphins that come in each evening to be fed by tourists. Chris, Heather, Julie and Ben put on wetsuits to keep warm while feeding the dolphins in the evening. That evening after they gave the

instructions and had everyone line up, it started pouring down rain. We were the only smart ones with wetsuits, which turned out to be a very good decision as it was very cold during the feed. We went up to the dolphins in pairs with the guide showing us how. We were only allowed to feed one fish. You hold the tail of the fish and steadily put it under water waiting for the dolphin to take it from you.



Heather, Chris, Ben and Julie are ready to feed the wild dolphins.



Chris and Heather feeding the wild bottlenose dolphins when it was pouring down rain.

Snorkeling the Wrecks

The six of us spent the morning of day two snorkeling the ship wrecks off the island. The water was a little cool, about 62 degrees Fahrenheit. The weather had been bad all week so we were afraid we wouldn’t be able to go. Luckily the sun came out and it was a beautiful day. The 5mm wetsuits kept you pretty warm. There are about 7 wrecks off Moreton Island, we only covered about three of them. We had a great time viewing the ships and feeding the fish bread. Our guide showed us the fish alley where the fish would eat it right from your

hand. We were all shivering when we road on the boat back to shore.



All suited up and ready to go snorkeling.

Lone Pine Koala Sanctuary

The six of us spent the day at the Lone Pine Koala Sanctuary. We watched the sheep herding first. It is quite interesting how they train the dogs to move the sheep around. We had a great time feeding the kangaroos. We were able to get our picture taken with the koalas. Each koala can be held for 30 minutes at a time. There are over 120 koalas at the sanctuary. Chris waited and waited at the kookaburra cages to hear them laughing. As soon as he would leave they would start laughing. The laugh or call is used to notify other kookaburras of their territory. A Kookaburra is the largest member of the Kingfisher family, as Chris’s father reminded him, a piece of trivia he remembered from Tom VanBebber. Kookaburras are carnivorous and use their large beak and a whipping motion with their head to break and soften their prey or whatever else they are eating.



Roo’s



The Kookaburra up close, not as cute as one would think.

Cairns

We flew to Cairns which was a 2 hour flight by Jetstar airlines at 7:30 am. It was an early morning arriving in Cairns at 9:30. We rented a KIA carnival mini van. Chris didn’t think we could get everything in the van. We had luggage everywhere, suitcases on either side of the back sliding doors and in the middle between the captain seats.



The holiday house hidden in the rainforest.



On the front porch of the holiday house, Ben, Bob, Chris, Julie, Linda and Heather.

We drove on to our holiday house in Daintree which is two hours north of Cairns. We

stopped for groceries in Port Douglas on our way up which is one hour south of Daintree. There isn't a grocery store after you cross the river unless you want to stop at the convenient store with very limited over priced items. After crossing the river it is very different. There aren't power lines and cell phones don't work. It was a three bedroom house in the rainforest with our own private waterfall and swimming area. Hearing the waterfall was very peaceful. The drive way was very steep. We were lucky that we made it up the driveway when we were loaded up to leave. The house ran on hydroelectricity so we weren't allowed to use anything with elements such as hairdryers or toasters. It is very musty smelling here since it is so humid. We learned very quickly that laundry doesn't dry very fast when hanging out on the hoist.



The hoist where our clothes air dry, it doesn't take long for the sun to fade the colors.

A cassowary crossed in front of us while on the road. Heather's Dad and Chris weren't quick enough to get a photo of this endangered species. We did find out later that we were very lucky to come across one of these creatures.



These are the actual signs on the roads to tell you to slow down for Cassowaries.

Cape Tribulation is a World Heritage rainforest which is the oldest rainforest in the world. The cape is the only place where two World Heritage areas touch each other, the Great Barrier Reef meets the rainforest. A jetty cannot be built for the boats to dock as any improvements are not allowed in a national park.



Cape Tribulation a World Heritage.



Heather walking along the path in the rainforest.

We spent the day hiking in some rainforest paths and walking along the beach. Each hike we did we saw many different plants and terrain. We saw some foxtail bats that are injured and a museum that helps the bats. They only eat fruit and nuts.



The Foxtail Fox which is being protected, almost extinct.

The Exotic Fruit Farm

We went to an exotic fruit farm where we tasted many fruits: Breadfruit, sugar cane, pommelo, cacao, yellow and black sopote, pink passionfruit, rollinia, and sursop. It was quite an experience. The couple are teachers who traveled all over to other countries. They were tired of the hussle and bussle of the busy world and wanted to slow down. Land was purchased in Cape Tribulation where they lived without much power and a phone. They brought back the seeds of those fruits that grow in the same environment as in Australia. They have been growing these fruits for the past ten years. There are a few that are sold to the grocery store. But most are just for fruit tastings at the farm. It cost \$15AU per person for the tasting.



All of the fruits we tasted at the Exotic Fruit Farm.

Rum Runner Trip

We took a day boat trip out to the Great Barrier Reef. The weather was kind of cloudy at first but it turned out to be a great day. The crew said this was one of the best days they have had for two weeks. It is winter right now which is perfect since it only gets about 80 degrees Fahrenheit. Bob was so afraid that he was going to be sea sick again. We made sure that he could see the horizon and could breathe fresh air. He did better than he thought he would. We had a great time seeing the tropical coral and fish snorkeling. Chris and Heather went on two guided dives. The water is so clear and blue.



A view of the Great Barrier Reef.

The Sugar Cane Processing Plant

Queensland is a big area where sugar is made since the temperature and conditions are good. In Mossman on our way back to Cairns we decided to stop for a sugar cane tour. It was very interesting to see the process after the cane is cut from the field to the raw sugar process. We were able to taste the sugar in the different processes, molasses to the end product as raw sugar. Once the raw sugar is complete it is shipped to a refinery by truck where they process the raw sugar to make granulated sugar like you purchase in the grocery store.



The Sugar Cane processing, looking like “Bob the Builder” with our yellow hard hats.

The Red Centre

The last *tour de Aussie* was Uluru, or Ayers Rock. This is also known as the red centre and from the photographs it should be obvious. The rocks, the soil, and the sky is red. This is the nexus of the outback. We landed on a small airstrip near Yulara, which is a resort town built by the government and several years later sold to a private company. The airstrip is just barely long enough to land a Boeing 737 and only Qantas flies there. When you rent a car, they don't worry about paint chips, they are just a fact of life in the outback.



One of the many shades of red as the sun sets on Ayers Rock.

Ayers rock (white man) or Uluru (Aboriginal) is a large monolithic sedimentary rock about 550 million years old, was the result of sediment from a large mountain range, compressed over time, pushed up along a fault line, and eroded to its present condition. The outback is flat and one can see for miles and miles, clear to South Australia and Western Australia, over 300 kms (120 mi) away (somewhat similar to being in Lincoln and seeing land features in Kansas and Missouri, just think about that for a minute). But standing out in this barren land are three monoliths, each solid continuous rock, each a different geology and different age. There is another formation called the Olgas (not for oil and gas) and Mount Conner. Ayers Rock is a sandstone rock, the Olgas were formed from larger rocks or boulders, and Mount Conner is the remains of a massive mountain range that existed about a billion years ago (Carmichael sandstone). All three are about 350 meters above the landscape.



Ayers Rock: it is estimated that 2/3of Ayers rock is below ground.



The Valley of the Winds hike was beautiful through the Olgas.

The first day we got our bearings, drove around Ayers rock and did a few short walks. The next day we walked around the rock, a 9.6 km hike. The third day we did the 7.6 km hike around the Olgas, and a 2.6 km walks through the Olgas gorge. We were pretty tuckered by then, but Chris decided he still had not had enough, and he climbed Ayers Rock on the last day. About a 350 meter climb or 1,000 feet up nearly a 1:1 slope about half the way, its is a pretty difficult climb. There is a chain and pole system for the first half, although the aboriginal men use to do it barefoot as a rite of passage from boyhood to manhood. I doubt many of the well fed tourists could have climbed it barefoot without the help of the chains so one has to have a deep respect for the natives who would have done it as a teenager living off of the bush tucker in one of the most inhospitable places on this planet.



The climb, from the top, the chain on the way up, on the way down, and some “dodgy” spots. If you slip, there is nothing to stop you until you fall the 330 meters (1,000 ft) to the bottom.

We also visited Mt Conner, the third of the monoliths. All three of these massive rocks, are in a perfect line east to west and from the top of Ayers rock you can line the other two up. We had decided to stay at a cattle station about 90 km from Ayers Rock instead of the resort town. The cattle station had very nice, but basic accommodation and we were able to organize a tour with a local guide who has lived in the area all of his life.



Chris and Heather standing in front of Mount Conner at sunset.

A local and a cattleman, we were schooled in the protein content and feed suitability for every species of grass and bush on the station. While many think that the bush tucker (food from the plants that grow in the outback) knowledge came from the aboriginals, it turns out that just as many uses come from the pioneers, nearly every species of vegetation in the outback has a cousin on another continent. So the pioneers recognized the similarities and tried old tricks, sometimes it worked sometimes they didn't. It turns out that some types of vegetation in an area would be good for you, but move 300 km in another direction and it would kill you. This is why most of the aboriginal tribes stayed in a territory they knew and didn't venture or use bush they didn't know.



Our tour of the cattle station from Uncle.

The cattle station we visited, Curtin Springs, is a 1.03 Million acre property. The maximum number of cattle they can sustain, in a good season, is 5500 head of stock cow-calf pairs (that's right cowboys over 150 ac per pair-ponder on that for a minute). In 2002 they had a series of three different fires that raged

through and consumed about 1.00 million acres, Since the fires were widespread, the cattle market dropped out and they could not get a bid for the cattle they needed to cull. They had to shoot about 850 head of stock, because there wasn't enough grass left and they couldn't get a buyer for what they needed to cull. So it was either shoot them or let them starve to death, this is the brutal nature of the outback.

The station operates on 4 diesel generators to power the station and accommodation, and one needs to drill to at least 80 to 300 meters to find water. The water tasted salty to us, but the locals can drink it. There are 12 stock suitable wells on the property, and about 3 times that many that are not.



Camel that walking the fence. Most are wild here in the Outback. They destroy thousands of miles of rangeland fence annually.

Mt Conner is located on this property, and is 32 km around the base making it 3 times larger than Ayers Rock. The only way to access Mt Conner is through the station tour company, while Ayers Rock and the Olgas are a national park jointly managed by the Anangu Aboriginal land owners and the national park system. The federal government leases the land to have a park. The Aboriginals have claimed the land back as theirs through the court system over the last 20 years. In fact half of the northern territory is owned by aboriginal tribes, corporations, and trusts.

One stop on the tour was something we noticed on the plane, from the plane, one can see from 38,000 feet down to the outback, because its

crystal clear, without a cloud in the sky, no rain, no clouds. We noticed several things that looked like lakes, but they were white. They were salt lakes, and they are a source of beta carotene. They actually mine these lakes for the salt and extract the beta carotene, which is worth about \$1 million dollars a tonne currently. They say that the break even is just above \$1 million, so they aren't mining right now. The salt lakes are massive, and there is about 2 mm of fresh water on the surface of the saltwater, when there is water in them. The dingo's and ferrell cats have learned how to drink that 2 mm of fresh water without the salt, the only animals, including humans, that have.



Chris standing in a salt lake.

Chris's Technical Corner

Unlike the United States, the business of odour in Australia is political. Industry funds research to provide data that can be used for regulatory purposes. Chris has been working on the new odour criteria for feedlots in Australia, which were destined for release just prior to his departure. However, some "issues" discovered during the development of the final report have suspended the release of this work. Seems the work will be made public eventually, just that a little more information is needed to tie up some loose ends and make it robust enough for the regulatory environment.

Chris has been working with an air quality consulting firm, Pacific Air and Environment, in Brisbane, without doubt one of the best air quality consultants in the southern hemisphere. Through this work he has learned some of the in's and out's or CALPUFF, one of the most

sophisticated air pollution models. Because of his presence, Chris has established a collaborative effort between a multi-state research group in the US and PAE. This particular consultant has been very active in odour policy and emission inventory for Australian industries. They are also well known across the country for their meteorological and modeling expertise.

Chris visited with another consultant, he had met a few months earlier and toured another olfactometry lab. "The Odour Unit" a company started and owned by Larry Schultz does commercial olfactometry using a unit made in Asia. They utilize a smaller panel, usually 4-6 people (professional panelists) for the olfactometer. Is there less variability because they use the same panelists all of the time? Perhaps. The olfactometer is operated differently, more automatically than a conventional olfactometer, a laptop runs the session, and the panelists follow the instructions on the screen, which involves selecting the port they think the odour is and whether it is a guess, detect, or non detect.

For those of you who know the wind tunnel we use in the US to measure area source emissions, Larry designed the first one. Outside of agriculture, the US EPA flux hood seems to be the instrument of choice for area emission sample collection in AU. Larry's group also makes their own bags, which Chris stood on. Nice advantage is that these bags do not burst during air freight, which is a common problem with Tedlar.



Chris Working at NCEA (last day)



The Odour Unit: Chris and Larry Schultz in Sydney, Australia. Olfactometer on right holding a full air sample bag that didn't break even after Chris stood on it.



Olfactometry Analysis

Papers completed (or nearly):

Henry, C. G., D. D. Schulte, R. K. Koelsch, R. R. Stowell, D. P. Billesbach1, L. Koppolu. 2005. Comparing Two Ambient Odor Assessment Methods for Calibrating Setback Estimation Tools for Livestock Facilities. 2005 Animal Waste Management Symposium. North Carolina State University. 12 pp.

Henry, C. G., J. Price, I. Kruger, and G. Galvin. 2005. Comparing Separation Distance Methods for Confined Livestock Facilities (Piggeries): The Australian and US Approaches. Conference proceeding or journal article, yet to be determined. 24 pp.

Henry, C. G. 2005. Comparing Regulatory Differences for Confined Livestock Operations: America and Australia. White Paper or conference proceeding, yet to be determined. 17 pp.

Geordie Galvin, Christopher Henry, David Parker and Marty Rhoades. 2005. Comparison of flux chamber and back calculation derived emission rates using Windtrax and Ausplume for a feedyard in Texas. To be submitted to *Transactions of ASABE* (formerly ASAE) or other relevant journal. Appx 10 pp.

C. G. Henry, P. J. Watts, P. J. Nicholas 2005. Using an Emissions Model, Atmospheric Dispersion Model, and Survey Data to Establish Odor Criteria for Feedlots. To be submitted to *Transactions of ASABE* or other relevant journal. Appx 10 pp.

Watts, P. J. P. J. Nicholas, and C. G. Henry 2005. Odour Impact Assessment for Australian Feedlots. Development of Odour Performance Criteria for the Australian Feedlot Industry, Part G. Report of Project FLOT.323, Meat and Livestock Australia, March 2005. 200+pp.

Australian Vocabulary

- Coathanger-** *Sydney Harbour Bridge*
- Fortnight-** *every two weeks*
- Good onya-** *good for you , well done*
- Hoist-** *line where you hang up your laundry*
- Servo-** *petro or gas station*
- Whinge-** *complain*
- XXXX-** *pronounced Four X. brand of Beer made in Queensland*