
**Land for Wildlife and Garden for Wildlife**
**Central Australia Newsletter**

May 2019

# From the Land for Wildlife Coordinator

The cooling weather and delightful recent rains have certainly cleansed and reinvigorated the dry and dusty spirit of the desert in and around Alice. This is the time of year when migratory species and species that exhibit dormancy characteristics, start preparing themselves for the colder months coming. That may mean they are gorging themselves to store fat and reserves for long-haul flights north (e.g. Bar-tailed Godwit), or have enough reserves on board to return to their burrows, caves and tunnels to hunker down for a winter of brumation (inactivity). On the other hand, species that have been in aestivation during the long, hot summer months, such as burrowing frogs, are starting to respond to the temperatures and even the last few days of rainfall. These species now start surfacing from their safe refuge underground, to eat, mate and reproduce during a period of more suitable climatic and environmental conditions. Keep a watch out for animal activities in your gardens and wider expanses of the desert, and see if you can understand from their behaviour what stage of their seasonal activities (scientifically termed 'life history') they might be exhibiting. This leads me to mention that there is a reminder on page 8 of this newsletter about the upcoming World Migratory Bird Day. Other readings this month include some interesting research findings: one from a community-based feral cat eradication trial on Kangaroo Island (and already in action in the NT), and another article about recent scientific predictions on the current rate of extinction of the worlds insects. But so as not to end by dwelling *in* the problem, the research details actions to take towards a solution. I have also included some local action for you to consider implementing...today!

***May*** you read happily this month

**~ Kate Stevens**

Animal tracks in the shifting sands of the Central Australian desert
***~Image: Caragh Heenan***

***"The greatest threat to our planet is the belief that someone else will save it"***

*— Robert Swan*

## In This Issue



**Erratum for LfW Newsletter April 2019**

The article 'Fungi Fun for Everyone' was authored by Caragh Heenan.

February Habitat Quiz answers spelling correction:
*Acacia victoriae*

*My apologies to all those who were left wondering!*

# MEET OUR NEWEST 'GARDEN FOR WILDLIFER'S'

*Bernadette and Chips officially became 'Garden for Wildlifers' in April this year and are already displaying their GfW Bee-eater sign proudly on their front fence.*

If Bernadette and Chips look familiar to you, well, they should! As an avid book reader (the real thing……a hard copy document with a front and back cover, filled with paper pages that have a story written on them!), I first met Bernadette when I was perusing the shelves at the legendary Alice Springs bookshop, Red Kangaroo Books. Bernadette was there behind the counter ready to assist me in making that hard choice between two good books. Chips Mackinolty is a legendary local artist. I had been riding past his artistic flair displayed on the front fence of an Alice Springs private property ever since I arrived, and didn't even know it. That was until I saw the same artwork on Chips and Bernadette's fence!


Bernadette and Chips are passionate about maintaining and supporting habitat values on their property in Braitling, Alice Springs. The property is in an area that would typically flourish with Ironwood and Fork-leaved Corkwood vegetation communities. Bernadette and Chips well-vegetated native garden provides habitat for numerous birds and animals including various parrots, Kingfishers, Galahs, Crested Pigeons, Ravens, Crows, Grey-crowned Babblers and a variety of lizards. The garden also provides the perfect place to support a constructed bower, the work of a Western Bowerbird.

Personally, its really encouraging and satisfying to be adding another member to the Garden for Wildlife community, the 5th member in their street, and the 25th Garden for Wildlife property in Braitling.

*Welcome on board Bernadette & Chips. Thank you for your conservation efforts to conserve and protect our unique Central Australian habitat and wildlife.*

# Mass extinction of insects is occurring right now

*Insectivorous birds, bats, mammals and reptiles are at risk of their 'supermarket' closing down...forever*

Nearly half of all insect species worldwide are in rapid decline and a third could disappear altogether, according to a study published just last month in the peer-reviewed journal Biological Conservation. The authors, from Universities of Sydney and Queensland, are warning of dire consequences for crop pollination and natural food chains and are forecasting that unless food production changes are made, the entire insect taxa could very well be facing extinction. The study has shown that the world is currently experiencing the largest extinction event since the late Permian and Cretaceous periods and the current proportion of insect species in decline - **41%** - is double the decline rate of vertebrates (animals with a backbone). Currently a third of *all* insect species are threatened with extinction and if that isn't bad news enough, a further 1% of insect species join their ranks every single year.

**What to do???** Decisive action *can* avert a catastrophic collapse of nature's ecosystems. This means action and more action...NOW i.e. today (if you don't quite understand the full meaning of the term 'NOW'). *Decisive* action includes restoring bushland areas, such as the 'Buffle busting' activities conducted by the Alice Springs Landcare group at Ilparpa recently. The research authors also propose that a drastic reduction in the use of pesticides and chemical fertilisers are the best ways to slow the current rate of insect loss. The biggest cause of insect decline and extinction threat was/is habitat change i.e. deforestation, urbanisation, conversion of habitat areas to farmland [or manicured gardens]. The next pressure was pollution and the widespread use of pesticides in commercial agriculture. The recent collapse, for example, of many bird species has been traced to the use of insecticides on industrial crops such as wheat, barley, corn and wine grapes [a good enough reason to be gluten and alcohol free perhaps??] Prolonged droughts and dry periods have not helped the situation.

The positive message I can offer is to remember that YOU, dear members, ARE taking decisive action...continuously. Thank you! Land for Wildlife and Garden for Wildlife members plant, retain, maintain and encourage the growth and formation of habitat on their properties, whether they be small or large. This IS taking action, this action IS benefitting conservation. Is there more to be done?? Of course there is, there always is! Go have a cuppa with your neighbours, friends, family members and have a chat about all the good things (and feelings) you get for being a 'Wildlifer', how you do 'your bit', and of bearing witness to the beautiful outcomes in your habitat gardens. Go forth and gloat I say!!!

For further scientific detail about the decline of insects across the globe and the suggested actions to arrest it, click here to access the reviewed research article.

**Some (extra) things you can do today: place a rock in your garden, install and 'Air Bee 'n Bee' (see Sept 2016 newsletter), plant a tree that drops leaves and limbs, *don't* rake up the leaves or burn logs...insects live there!**

# *Alstonia actinophylla* — Milkwood

**Scientific Name:**
*Alstonia actinophylla*

**Common Name:**
Milkwood

**Register Number:**
47

**Location of Tree:**
2 Foelsche Street, Darwin NT

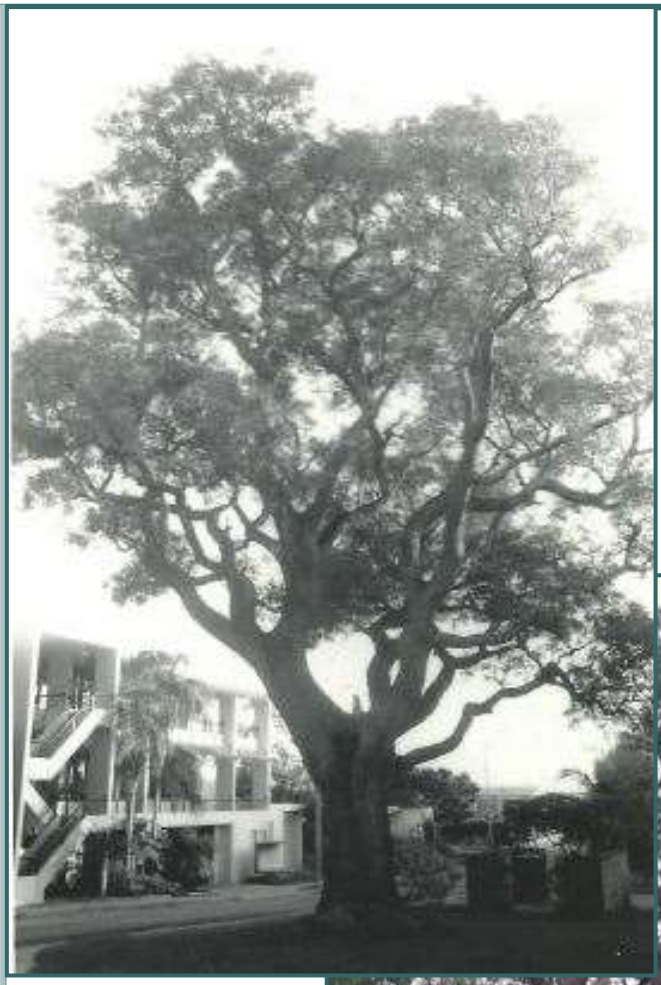
**GPS:**
*-12.46142, 130.84435*

**Categories of Significance:**
Aesthetic
Size
Age
Historical
Habitat

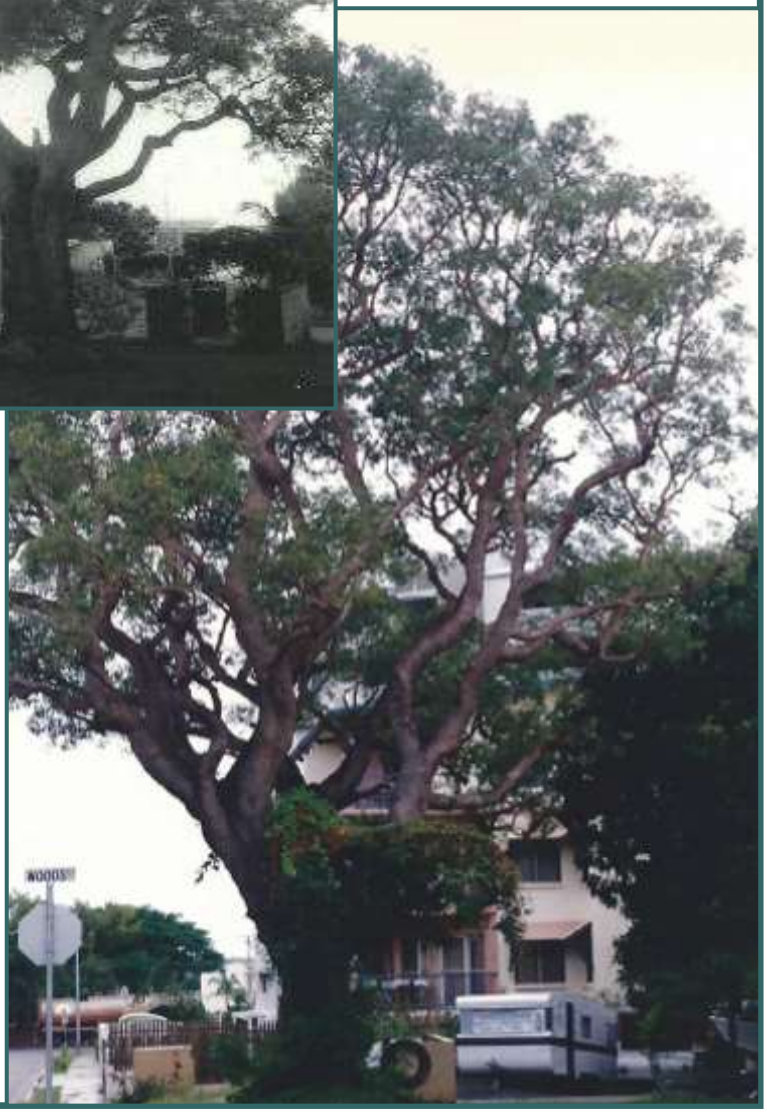
**Year Listed:**
1986

**Additional Listings:**
Heritage listed in 2006 (*Revoked in 2018 after tree death*)
National Register of Big Trees

View the NT Register of Significant Trees page to learn more about the register. *The NT Register of Significant Trees was established by the National Trust NT and Greening Australia and is managed by Land for Wildlife Central Australia.*



This tree was part of Darwin peninsula's original vegetation prior to 'European settlement'. The massive landscape structure was most likely the oldest and largest specimen of its type that existed in the Darwin region, until it died of old age (senesced) in 2018 and was removed from the location.



This Milkwood was nominated to the Register in 1986 by former Lord Mayor, the late George Brown. The tree was heritage listed in 2006, but delisted after it's demise.

In the photo on the right, note the Banyan Fig which had taken root in the fork of the tree.

Natural Soil Erosion Workshop

April 9-11- Desert Knowledge CRC & Hale River Homestead

Craig Sponholtz from Watershed Artisans in Santa Fe (New Mexico) travelled to Alice Springs to present a 3-day Natural Soil Erosion Management workshop to a group of 28 interested NT land managers and practitioners about his methods for slowing and retaining water in the landscape. The main secret is, of course, increasing and retaining ground cover, which takes concerted effort in Central Australia. Workshop attendees consisted of pastoral/station, NTG DENR staff, Low Ecological Services, Land for Wildlife, CLC Rangers and staff, Australian Wildlife Conservancy, Newhaven Sanctuary and an ecological consultant from the Top End. The workshop was run by Territory Natural Resource Management (TNRM) with funding from the Australian Government Regional Land Partnership Program. A variety of soil management courses will be offered by TNRM in the coming 2 years; you can find out more details on the facebook page NT Soil Consortium.

Craig described New Mexico as having similar rainfall as CA however the region receives runoff from melting snow flows from the Rockies each year and because of this, watercourses usually provide regular annual flows. Craig's work focuses on capturing this water and spreading it across the landscape, at the same time, reducing any severe gully erosion from sudden, large or fast flooding events. He has provided these courses over the last decade and has work intensively with land managers in the Townsville region of Qld with cane growers on how to avoid run-off into the Great Barrier Reef, and private property owners in NSW. Needless to say, Craig was happy to admit that he had a bit to learn about the fragility of the Central Australian ecological systems.

Day one was all the theoretical learning where Craig introduced us to technical terms used in this kind of work. He described the mechanics behind water flow types, direction and levels and different soil types. We viewed relevant landscape photos to decide on the level of erosion present and give our own suggestions (using Craig's methods) how we might fix the issues. Craig presented case studies of projects he had delivered in both the USA and Australia.

Days 2 and 3 were spent at Hale River Homestead, a working station tourist venture in the East Macs. Here we got excellent first-hand experience of using Craig's natural erosion management in situ. Over the course of day, we constructed a Zuni Bowl (diagram below) which places a stable stream-bed and ponding-pool over an erosion point to reduce the flow rate and retain water for longer periods in the watercourse.


Left: Diagram of Zuni bowl construction.

The 'erosion' scenario
*(just pretend there is a big headcut from water erosion mid-stream)*

During construction

Final product!

We also visited the water retention work that station owner, Sean Leigh, has been implementing through the construction of ponding banks (below). Sean has had 20 years experience in the use and implementation of ponding banks as a Centralian land management tool having previously constructed them across his previous properties at Murry Downs and Epenarra Stations. Hale River Homestead is a lovely setting and was a great venue for this course - many thanks to the Leigh Family for adding to our learning by offering their local knowledge, equipment and hospitality. Thanks also to TNRM and Jake Betros for providing the workshop for anyone wanting to learn different aspects of land management and water retention in an arid environment.

**~Liz Bird, President: Centralian Land Management Association**

## Feral cat eradication: tried, tested and true in the NT!

The Felixer™ cat trap has been used successfully in the Northern Territory by the Ii-Anthawirriyarra Sea Rangers along with the assistance of Pat Hodgens from Terrain Ecology. These high-tech machines use a series of lasers to identify a cat within 4 metres of the device. The trap exploits cats compulsive grooming behaviour and ejects poisonous gel onto their fur if they pass the trap. The Felixers are being used in the final stages of the eradication of feral cats from the 13,000 ha West Island, located in the Gulf of Carpentaria. Previously cat eradication attempts relied on baiting and trapping.

By integrating the oldest and newest technologies available to survey and control cats, recent deployment of 40 camera traps, an Indigenous tracking expert from the Western Deserts and a cat detection dog suggests that only one or two cats currently remain on West Island. Lets hope they can claim to be completely 'feral cat free' soon.

Following on from the successes of feral cat eradication on a Northern Australian island, a Southern Australian island is now putting Felixer to the test on their pesky marauders.

Read below about the outcomes from the first trials conducted on Kangaroo Island and which has been a collaborative project between the SA Government and Natural Resources KI, with assistance from the feral cat eradication expert, Pat Hodgens.

Government of South Australia | Natural Resources Kangaroo Island

# *Kangaroo Island Felixer™ trials*

## Background

The Felixer™ Grooming Traps, which have been tested extensively in photo-only mode on Kangaroo Island, work by identifying cats from their size, shape and gait as they cross in front of the machines. When the traps identify a cat, the machine administers a single dose of a toxic gel to the animal's coat, which is ingested when the cat grooms itself. The use of the Felixer™ Grooming Traps in toxic mode for this trial was highly regulated and required permits for both using 1080 and animal welfare.

## The trial of Felixer

Over a six-week period the Felixer™ grooming traps were trialled in 'toxic' mode using *sodium fluoroacetate* (1080). The trial was undertaken across 12 square kilometres on a single farm with the full cooperation of the landholder and neighbouring properties. Prior to the commencement of the trial, warning signs were placed around the trial property, neighbouring properties were consulted, both in writing and in person, and notices were also placed in public places around the Dudley Peninsula to make the community aware of the use of 1080. During the course of the trial, neighbouring landholders were contacted and shown the best ways to set up and place cage traps to catch feral cats – another of the tools that the eradication program will use. Before activating the grooming traps the feral cats on the property were trapped and fitted with radio collars in in order to track their movements before and after being targeted by the Felixers™. The Felixers™ are specifically engineered to target feral cats' grooming behaviour by squirting a measured dose of *sodium fluoroacetate (*1080*)* onto them as they pass in front of the devices, which is then ingested when they groom themselves. Regardless of whether the traps activate, they photograph what passes in front of them. These images are then downloaded and analysed by the eradication team to assess target accuracy. The six grooming traps used in the trial accurately identified and fired at 13 out of the 20 feral cats that crossed in front of them (encountered). More than 1,300 encounters were recorded with animals other than cats, which were correctly identified as non-target (traps did not fire).

*A grooming trap which can differentiate between different animals and detect micro-chipped animals.*

The 1,300 encounters with these animals included 216 farm animals, 417 visits by brushtail possums and 12 dog encounters. All 12 dog encounters were correctly identified as non-targets by the grooming traps and they did not fire. The devices incorrectly fired at two farm animals (from 216 encounters, a target rate of 0.9%). These two animals were later observed unharmed as they did not groom themselves and ingest the poison. A grooming trap also fired at one of the possums (from 417 encounters, a target rate of 0.24%), which could not be found to verify if it survived unharmed, although on reviewing the photos taken by the grooming trap it would appear that the toxin missed the possum. The radio collars allowed the feral cat team to locate and remove the cat carcasses, to calculate the length of time to death after being targeted and established that the cats remained within their home range.

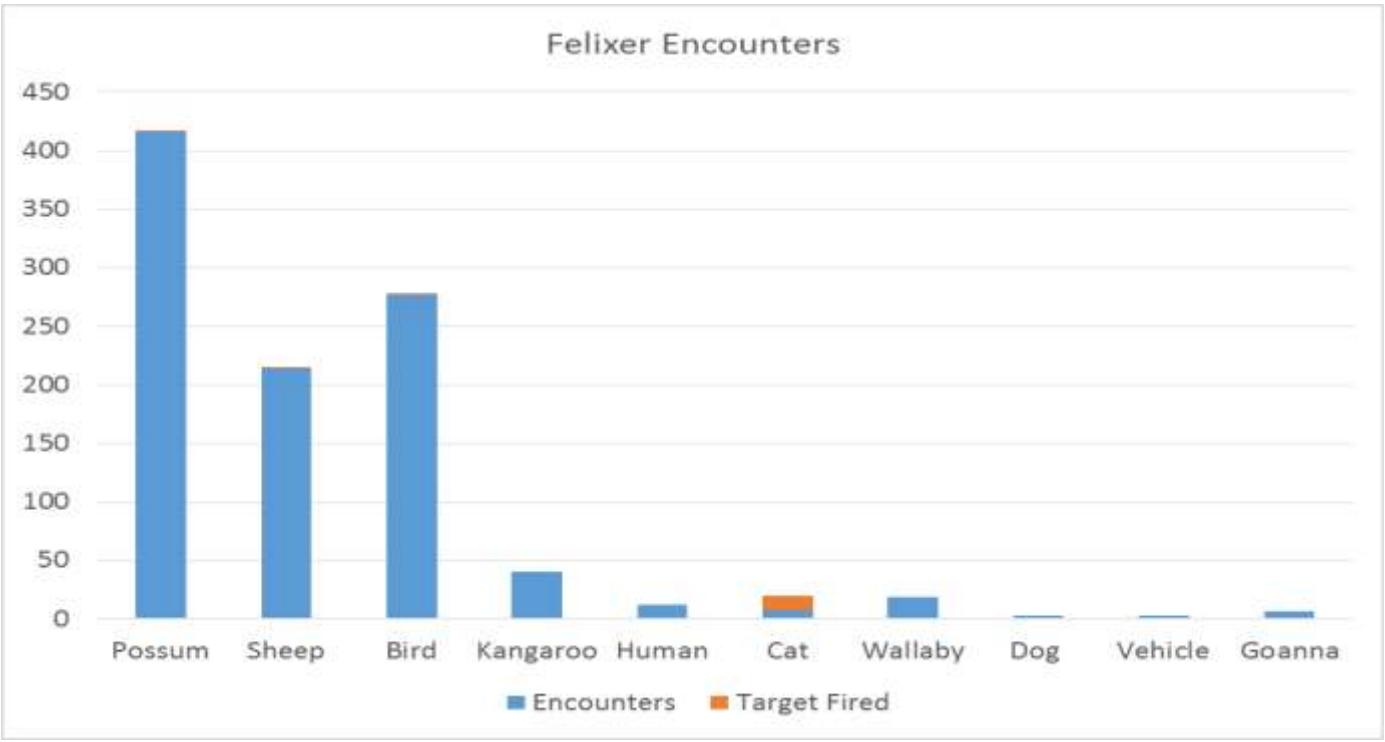



Figure 1. Encounters are when an animal has walked across the front of the Felixer™ Grooming Trap and activated its sensors, where a photo is taken, this could be the same animal multiple times. Grooming traps have only fired where indicated in orange.


Migratory birds to Central Australian wetlands might feed on Main's Frog, *Cyclorana maini* during wet times at Hugh River, where this photo was taken. Grouped together with other burrowing frogs, it survives the dry periods by absorbing water into its body, burrowing deep underground, and encasing itself in a watertight bag (cocoon), awaiting the next major rain fall.
**Image: Jesse Carpenter**

## April Habitat Quiz *Answers*

1. The correct term for the internal spheroidal fruitbody of a Puffball fungi is gasterothecium. Its function is to provide internal spore production.
2. The ant species which is considered a pest in the Alice Springs region is the Big-headed Ant, *Pheidole megacephala*.
3. There are no native cacti species in Australia. However, introduced species of cacti have now been declared Class A weed species in the Northern Territory and must be removed from your property. See the 'Further Reading' section (below) for more information about identifying and eradicating declared cacti.
4. The 10th tree listed on the Central Australian Register of the NT Significant Tree Register is a River Red Gum, *Eucalyptus camaldulensis* on the corner of Parsons Street and the Todd Mall in Alice Springs. It is listed for significance under the 'Age, Historical, Cultural and Unique Location classifications.
5. The fungi that was pictured in the banner the April newsletter was a *Agaricus langei* and is a pileate fungus
6. Slater's skink occurs in shrubland and open shrubland on alluvial soils close to drainage lines. Slater's skink is a burrowing species and digs complex burrow systems under small shrubs, particularly several species of native fuschia (*Eremophila* spp.), and occasionally under tussock or hummock grasses and fallen timber.

## This Months Habitat Quiz…??

1. What are the 10 categories of significance that a tree(s) needs to constitute (one or more categories) to be listed on the NT Significant Tree Register?
2. What is the current estimate of the number of feral cats throughout Australia (answer to the closest million!!!)?
3. What is the current estimate of the number of domestic cats throughout Australia (answer to the closest million!!!), and can they impact wildlife in the same way as feral cats?
4. What is the scientific name of the species on page 8 of this months newsletter and what 'group' is it classified in?
5. What type of structure does a male Bower Bird make and what is it's purpose?
6. What is a '*decisive action*' you can take today that will assist in slowing the alarming rate of decline of insects in and around Alice Springs?

***Answers will be in the next newsletter***

## Further Reading

Click the link symbol to be redirected to the article

*Article* • Guerrilla Gardening; Vegetating your street verge.
***Note:*** *Contact the Council for permission, and to have your verge garden registered.* *ASTC Road verge policy*.

*YouTube* • West Island cat eradication project

*Fact sheet* • Bin it! Don't spread it! Invasive cacti information.

*Newspaper Article* • Australia Is Deadly Serious About Killing Millions of Cats - New York Times

*Webpage* • Australian Lichens - What is a lichen?

Cheers,

*Kate, Caragh, Candice and Bill*

*Do you have any stories or images to share? Get in touch! We are always looking for members to share their experiences via our social media and newsletter. Email us with your suggestions of articles or topics that you wish to hear more about.*



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