

Hidden Vale *Tails*

– HIDDEN VALE WILDLIFE CENTRE NEWSLETTER –

The United Nations General Assembly proclaimed 2020 as the International Year of Plant Health – an opportunity to raise global awareness on how protecting plant health can help end hunger, reduce poverty, protect the environment, and boost economic development.

Here at Hidden Vale, we value the importance of our plants and regional ecosystems. In recognition of the importance of the Year of Plant Health, each edition of *Hidden Vale Tails* will highlight at least one of the projects we are involved in to protect, repair and improve our landscape.

In this edition we feature the work of our research team in restoring Franklin Vale Creek.

Koalas, rufous bettongs and a diversity of other wildlife species may soon have safe refuge in the land around Franklin Vale Creek. This is thanks to Hidden Vale Wildlife Centre and Ipswich City Council prioritising this area for restoration.

As agriculture has expanded into the Franklin Vale Creek area, the creek banks have eroded and woody weeds such as Chinese elm (*Celtis sinensis*) and tobacco bush (*Solanum mauritianum*) have taken over.

Eliminating weeds will enable native vegetation to re-grow on the creek bank and improve the habitat for wildlife. It will also help to improve water quality and reduce erosion, which is also good for the health of nearby cattle sharing the land.

Current methods of eradicating woody weeds by spraying with registered herbicides can damage native trees and shrubs when herbicide drifts further than the intended target.

To tackle this issue, Hidden Vale Wildlife Centre researchers investigated the effectiveness of a system that directly injects the herbicide into the stems of woody weeds.

Researchers trialled Bioherbicide Australia's (BHA Pty Ltd) stem-injection system ("InJecta") with Chinese elm and tobacco bush in the lower region of the Franklin Vale Creek. They mapped, measured and treated these weeds by injecting different biological and chemical herbicide capsules throughout the year.

Researchers found that using stem-injected herbicides was effective in eliminating weeds in this environmentally-sensitive area. The safe containment of the herbicide prevents entry to the water or aerial drift to protect neighbouring native vegetation.

Using stem-injected herbicide capsules is also more cost-effective than traditional means of applying herbicide as it is applied very quickly (around six to 10 seconds per dose), does not require personal protective equipment, and can be more easily taken into locations where carting water for herbicide spraying is challenging.

For these reasons, researchers are confident that the use of this technology at Franklin Vale Creek can lead to the successful eradication of woody weeds without damaging existing native plants.



1. UQ Professor Victor Galea and **2.** UQ Honours student Ciara O'Brien treating Chinese elm (*Celtis sinensis*) trees with chemical herbicide capsules.
3. A tobacco bush (*Solanum mauritianum*) several weeks after being injected with chemical herbicide capsules.

The Hidden Vale Wildlife Centre is a collaboration between the Turner Family Foundation and the University of Queensland into the study and research of native ecosystems and wildlife.

Further information is available at turnerfamilyfoundation.com.au and hiddenvalewildlife.uq.edu.au



Understanding Fire season

Fire has played a crucial role in Australia's ecosystems for millennia. Ben O'Hara* reports that during the past few months Hidden Vale and surrounding areas have experienced extremes of fire in the landscape – from managed ecological burns to uncontrolled fierce bush fires.

As part of the Little Liverpool Range Initiative, a cultural burning workshop with leading Indigenous fire practitioner Victor Steffensen was held at the Hidden Vale Wildlife Centre in mid-October. Victor teaches people how to listen to the land when planning ecological burns.

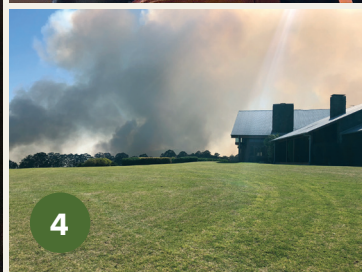
"You can't plan a burn from an office desk," Victor told the group of around 15 participants from the region. "You need to be in amongst the land to see when the best time to start a burn is."

Victor explained the interrelation between vegetation types, soil profiles, moisture content, time of year and other factors that influence fire planning. An example being the spotted gum and ironbark country around Hidden Vale.

"This is storm burn country," Victor explained. Storm burn country is where ecological burns are best completed when soil moisture is high after storms in the wet season so that the only the undergrowth burns.

Victor explained how Australian vegetation needs fire, and that the heart of cultural burning is understanding that the right fire at the right time can help restore environmental balance.





It was not long after this workshop that the region experienced the antithesis of managed cultural burns with three dry lightning strikes starting a fire in the north west region of Main Range National Park. This fire continued uncontrolled for weeks, burning out large portions of country in the Thornton region including two properties managed by the Turner Family Foundation at Mount Mistake and Thornton.

These fires were ecologically devastating for some ecosystems in a region that has been in drought, with large, dry fuel loads. The intensity of fire was demonstrated again in mid-November with a blaze sweeping through Spicers Gap.

What began as a small fire at the base of the Dividing Range beneath Cunningham's Gap grew and consumed vast areas of World Heritage rainforest, impacting areas that have not co-evolved with fire and not adapted to its impacts.. Undoubtedly fires in these areas will reduce habitat for native wildlife, and potentially allow feral predators better access to habitat that was previously restricted.

At the end of November, the fires were progressing through Spicers Peak Station with over half the property impacted. Recovery of these fire-sensitive ecosystems will take a long time. There is no quick-fix but we will be working with renewed vigor and passion to restore these ecosystems for our wildlife.

Bush fires are part of the Australian landscape. More frequent 'hot' fires and the impacts which we have witnessed first-hand presents a dangerous prospect but one that we will be ready to manage.

From a personal point of view, I am incredibly grateful for the efforts of station managers Andrew Irvine and Charlie McKay at Mount Mistake, and from Spicers Peak Station, Chris and Sharon Iseppi, and farm hands Ayden Coall and Saxon Gall, who all showed tremendous spirit and aptitude in helping the Rural Fire Service and Metropolitan Fire Brigade tackle the fires that threatened assets at Peak Station and Spicers Peak Lodge. As well as assisting with fighting the fires, the group maintained management of livestock to ensure their care and wellbeing.

***Ben O'Hara is the Turner Family Foundation's General Manager, Land & Environment**

"Storm burn country is where ecological burns are best completed when soil moisture is high after storms in wet season so that the only the undergrowth burns. "

FAST FACTS *Hidden Vale Koala Project*

- * 30 koalas collared since June 2018
- * 21 koalas currently collared and being tracked as at November 2019
- * 6 males
- * 15 females
- * 7 joeys born in 2019
- * 3 joeys yet to be named and collared

Tracking The Elusive Koala

By Karmen Butler

A sharp, high-pitched 'ping' is a welcome sound to a koala tracker's ears. It's the starting whistle, the beginning of the 'bear hunt' through the eucalypt forest. No, koalas are not 'bears' (I hear you thinking), but are arboreal, herbivorous marsupials with an incredible teddy-like appearance. But don't let those cute faces fool you - they can play a cunning game of hide-and-seek!

The elusive 'ping' is due to a VHF signal to a receiver device. This receiver, when attached to an antenna, provides a directional location of the signal. Each koala at Hidden Vale has its own frequency emitted from a VHF tag on its collar and anklet. These light and safe devices are necessary for the monitoring and management of our koalas. Each collar tag provides us an exact location for each animal every 12 hours.

We study the health and sustainability of the local koala population as part of the Hidden Vale Koala Project where we consider their movements, demographics, health, reproductive rates and mortality rates and record this information in our koala database.

Back to hide-and-seek... sleepy-eyed and blending well into her surroundings, the koala in question, 'Shamala', is finally found. Her overall condition is recorded, paying close attention to her eyes, nose, coat, rump, and behaviour. Chlamydia levels are low in our Hidden Vale koalas, however vigilance on health and potential symptoms is of utmost importance. Tag fittings are checked, and the occasional 'cling-on', otherwise known as a joey, can be seen on some of our females between June and December. Shamala's joey, 'Evie', sits comfortably on mum's back, alert, ears big, cheeks chubby and rump white and fluffy. She watches the strange people looking through binoculars and taking copious notes. The tree diameter, tree height and koala height in the tree are measured and recorded along with GPS coordinates and environmental data.

Shamala and Evie are very healthy and happy together in their treetop perch. However a closer inspection finds that Evie's small VHF joey collar is missing. The 'ping' from Evie's collar is coming from somewhere east of their location. It's now become a needle in a hay-stack mission.

Tracking collars are designed to break if, for instance, they



get caught on a branch, or are pulled during fighting or mating.

The quest to retrieve Evie's matchbox-sized tag begins. The power of the signal is adjusted and fine-tuned until finally, far away from the culprit and her mother, among a lantana thicket and long grass, the collar tag is located.

Data and location are recorded, the collar is retrieved, and cheeky Evie is put on the catch list so she can be safely re-collared.

Koalas are caught either overnight in a box trap on the ground below their tree, or in daylight from a ladder by experienced personnel.

Koalas that are assumed healthy are caught every six months for a veterinary check-up. Young koalas need collar sizing checks more frequently to ensure the correct fit. Unhealthy koalas are recaptured as necessary and undergo treatment to combat infection or disease and to increase their body condition, before being released and monitored.

All released koalas go back into the same tree from which they were caught, and most feel instantly 'back at home'. The exception (there's always one) is the koala 'Josica', who assumes you've placed her in the wrong tree (silly humans). Not shy of people, Josica climbs back down immediately after release and wanders off (rather sassily) to choose her own tree nearby!

With 21 koalas currently collared, and tracking occurring at least twice a week, it's never a dull day for our koala trackers. The tracking procedure can best be summarised as:

- * Locate the fluffy bum high in the tree ✓
- * Record detailed assessment ✓
- * Quick cute photo ✓
- * Enter the frequency of the next koala to track ✓
- * Keep tracking until you get a '...Ping, ping, ping...' ✓

To read more about koala research at Hidden Vale, visit www.hiddenvalewildlife.uq.edu.au



To find out more about the Turner Family Foundation visit www.turnerfamilyfoundation.com.au