Hidden Vale Tails
HIDDEN VALE WILDLIFE CENTRE NEWSLETTER
ISSUE #4 – SPRING 2019

Saving THE SPOTTED-TAILED QUOLL

The Spotted-tailed Quoll *(Dasyurus maculatus maculatus)* has many common names including spotted marten, tiger cat, tiger quoll and spotted-tailed native cat. But this 'native cat' isn't much like a cat at all. Quolls are actually tree-climbing, den-dwelling marsupials.

The Hidden Vale team are on the lookout for signs of the Spotted-tailed Quoll, including the animal's distinctive scat, as well as animal remains or footprints.

The quolls' story is one of dramatic decline. Quolls were once relatively abundant across most of Australia. Before European settlement at least one species of quoll inhabited most parts of the country. Today, quolls are living in isolated areas that may be too small to support viable long-term populations. This reduction in distribution and population has been caused by:

- loss, fragmentation and degradation of suitable habitat through land clearing, change in fire patterns and logging
- loss of potential den sites such as large hollow logs
- foxes and cats which prey on quolls and also compete with them for food
- persecution by humans, who have often blamed quolls for the loss of stock and poultry.

The Spotted-tailed Quoll is about the size of a domestic cat, but has shorter legs and a more pointed face than a cat. Its fur is rich red to dark brown, and covered with white spots on the back which continue down the tail. The spotted tail distinguishes it from all other Australian mammals, including other quoll species. However, the spots may be indistinct on young animals.

The average weight of an adult male is about 3.5 kilograms and an adult female about 2 kilograms.

Spotted-tailed Quolls live in various environments including forests, woodlands, coastal heathlands and rainforests. They are sometimes seen in open country, or on grazed areas and rocky outcrops. They are mainly solitary animals, and will make their dens in rock shelters, small caves, hollow logs and tree hollows.

These animals are highly mobile. They can move up to several kilometres in a night and may have quite large territories. However, quoll behaviour will differ between intact and human modified landscapes. Current research by Hidden Vale PhD student, Kellie Goodhew, is examining quoll movement and habitat use in grazing landscapes in order to understand what habitat elements may be required to allow their safe movement and persistence in these areas.

If you see a quoll, you can record the sighting on the Atlas of Living Australia website: ala.org.au

FAST FACTS – Spotted-tailed Quoll

- **Status:** Vulnerable (State), Endangered (Commonwealth)
- The largest of the six living quoll species (including subspecies) and the largest marsupial carnivore on mainland Australia.
- Related to the Tasmanian Devil and the now extinct Thylacine (Tasmanian Tiger).
- Primarily a carnivore that preys on medium-sized mammals including possums, gliders and rodents.
- Usually nocturnal, but will bask in the sun on occasions.
- Sightings in Queensland restricted to Blackall/Conondale Ranges, southern Darling Downs (Stanthorpe to Wallangarra), Main Range (Goomburra to Spicers Gap), Lamington Plateau and McPherson/Border Ranges (Springbrook to Mt Lindsay).

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The University Of Queensland AUSTRALIA
TURNER FAMILY FOUNDATION
Preserving Australian Land & Wildlife

Little Liverpool Range Initiative

CONNECTING PEOPLE, LANDSCAPES AND ECOSYSTEMS

Just 40 minutes drive from the Ipswich CBD and bordering the Scenic Rim, Ipswich, Lockyer Valley and Somerset council areas, lies the Little Liverpool Range.

Protected from many of the pressures associated with urban development, the range provides refuge to a variety of significant species. With large areas of intact remnant vegetation stretching approximately 60 kilometres, the range also provides a corridor of essential habitat, linking Main Range National Park and the Great Eastern Ranges.

The Little Liverpool Range Initiative (LLRI) was formed to raise awareness of this remarkable landscape and conserve regionally significant biodiversity for future generations. The LLRI represents multiple stakeholders including landowners, environmental organisations and government bodies. Collectively, these groups aim to protect areas of remnant vegetation, encourage sustainable land management, improve habitat connectivity and support the re-establishment of rare and threatened species.

In July, stakeholder representatives met to identify priorities for the initiative and discuss ways to support landholders with activities such as weed and pest management, water quality management, and threatened species monitoring.

As a large portion of the range is privately owned, a balance is needed between economic productivity and conservation. Properties undertaking mixed-purpose land management, such as Hidden Vale, are playing a vital role in trialling and demonstrating restoration and conservation activities.

Research undertaken at the Hidden Vale Wildlife Centre will also assist in threatened species monitoring and reintroduction programs.

A series of community information sessions, workshops and excursions have been scheduled during the next year to continue to raise awareness of the area. Further info on upcoming events can be found at https://www.facebook.com/littleliverpoolrange

– *Courtney Morgans, LLRI Project Officer*

FOXING FOR A FIGHT

The European red fox, *Vulpes vulpes,* is a serious introduced predator, implicated in the extensive decline of Australia's highly distinctive and largely endemic land mammal fauna.

Fox research in The Hidden Vale Project aims to support and assess the development and implementation of an integrated fox management program to assist the restoration of prey species across our Nature Refuges and the broader region.

Initial steps in the program were designed to get an indication of fox relative abundance across all the Hidden Vale Project properties. An Honours student used three traditional fox survey methods: sand plots, cameras and scat accumulation counts, as well as a fox detection dog. Karmen developed a method to turn standard presence/absence detections by the dog into relative abundance data which correlated with the other survey methods.

Trapping and camera data on Hidden Vale indicates depauperate populations of 'critical weight range' mammals, i.e. those species that are more susceptible to decline in the presence of the fox. Following two years of targeted surveys, we now have baseline data for several critical species, that can be tracked over time in conjunction with fox control and other habitat restoration work.

Next steps include developing humane fox-specific control methods that have the lowest possible non-target impacts. The first Honours student in this project, Alex, is working on Hidden Vale and Queensland Trust for Nature's property Aroona, to determine if we can kill foxes without impacting wild dogs. We are characterising our wild dog populations to be able to track their changes in dynamics before, during and after fox baiting.

We are then aiming to further develop fox control methods that do not impact quoll populations, by modification of a Canid Pest Ejector to restrict quoll access to bait. This will allow expansion of fox control into areas we believe still have Spotted-tailed Quolls including our properties Mt. Mistake, Thornton View Nature Refuge and Spicers Peak Station & Nature Refuge, as well as other surrounding areas where we hope the quoll will again flourish in the future.

Various other research projects are planned. To get further information, or to get involved, contact megan.brady@turnerfamilyfoundation.com.au

VOLUNTEERS MAKE THE *difference!*

Up before dawn, four-wheel-driving across the picturesque 4,500-hectare Old Hidden Vale Nature Refuge, passing mobs of cattle and kangaroos, side-by-side, to check mammal traps. Measuring and sexing wildlife such as Yellow-footed Antechinus and Long-nosed Bandicoots to contribute to long-term condition monitoring. Once back at the Hidden Vale Wildlife Centre, pressing plants and packaging scats collected in the field that morning. After lunch, back out to refresh camera trap baits with chicken necks and download images in search of the elusive Spotted-tailed Quoll.

That was a typical day in the life of volunteer Tom Scott, sharing his skills in mammal surveys, gained during his Honours in Ecology. Tom volunteered on The Hidden Vale Project one day a week, for a year, and now works part-time in the Project's Ecology & Conservation Division.

Developing skills to be job-ready can be just one of the benefits of volunteering. Volunteering means different things to different people. Willingly giving your time and energy to contribute to your community can provide a variety of benefits. It can be about taking action on issues that are important to you and sharing your skills. Or it can be about gaining skills and making new friends.

For Rana, a trauma counsellor, passionate about doing whatever she can to protect and restore nature, volunteering on The Hidden Vale Project is about connecting with the Queensland bush and being in the present moment.

"It's the way I ground myself," she said.

Rana volunteers on weekends planting native species to restore a degraded section of Franklin Vale Creek.

The range of opportunities for volunteering at Hidden Vale is vast. Within the Wildlife Husbandry department of the Hidden Vale Wildlife Centre, a team of volunteers undertake important daily tasks such as preparing feed for our endangered Mahogany Gliders, pouch-checking Fat-tailed Dunnarts that are part of The Queensland Brain Institute breeding and research program, and weighing Northern Brown Bandicoots. Volunteers also take part in working bees to maintain the enclosures and enrichment material for our captive wildlife. Many of these volunteers are students undertaking the Wildlife Science Degree through The University of Queensland Gatton campus, just half an hour away. Tyla is one such student and has been a volunteer since the Centre opened in 2017.

"Volunteering at the Wildlife Centre gives me valuable native wildlife husbandry experience that I wouldn't get anywhere else," she said. "I get to be up-close-and-personal with Australian wildlife and meet new people working in the conservation industry."

While some volunteering leads to employment or future work contacts, other volunteering can lead to more study. Take Gloeta for example, a fervent science communicator. Gloeta volunteered for three weeks undertaking a literature review on Rufous Bettongs. This was enough to spark her desire to undertake a PhD on the ecological role of Rufous Bettongs, to contribute to our long-term goal of restoring ecosystem engineers and 'critical weight range' mammals across our 10,000-hectare network of Nature Refuges.

As Gloeta found, volunteering can be a great way to test and refine your interests, and suss out potential supervisors, before making the leap into further study.

All our volunteers and the work they undertake is highly valued. However, one volunteer this year stood out for his dedication, enthusiasm, methodical nature and just pure excellence. Luis was handed a collection of dusty boxes and plant presses, and was given the key to the 4WD and a tablet with a map of the Hidden Vale property. With this meagre assortment, he set about constructing the professional, archival quality "Hidden Vale Herbarium". This invaluable contribution consists of both a physical herbarium located in the Wildlife Centre, as well as a linked, searchable photographic database that is an asset for future research and land management.

Luis recently received the inaugural Volunteering Excellence Award, aptly named The Hidden Vale Project "Luis Buchan Award", to serve as a reminder of the heights that volunteers can achieve and the difference they can make.

We celebrate you all.

To register your interest to volunteer on The Hidden Vale Project, go to: https://hiddenvalewildlife.uq.edu.au/contact/volunteer-registration

↓ Volunteer Ian helping transplant grasses suitable for endangered Eastern bristle birds.

↓ Luis preparing Herbarium archival plant samples.

↓ Volunteers Zoe and Michelle helping prepare aviaries at the Hidden Vale Wildlife Centre.

↓ Tom after preparing the 50th soil plot (in background) for tracking predator footprints.

Out & About

Research students from seven countries visited Hidden Vale Wildlife Centre in July as part of the Student Conference on Conservation Science. Students from Nepal, Thailand, China, Sri Lanka, Indonesia, New Zealand and Australia enjoyed presentations at the Wildlife Centre, followed by a VIP centre tour and "koala safari" on the Hidden Vale property where they were able to see our koalas in the wild.

Hidden Vale research students were funded to attend this eight-day conference which included plenary sessions with noted conservation experts, as well as valuable networking opportunities.

The Hidden Vale Wildlife Centre team recently participated in the UQ Gatton Open Day.

The three minute thesis (3MT) competition is a global initiative that cultivates students' academic, presentation and research communication skills. Presenting in a 3MT competition increases students' capacity to effectively explain their research to a non-specialist audience.

Following a research training workshop on how to effectively undertake the 3MT, all eligible Hidden Vale research students recently participated in the UQ School of Agriculture and Food Sciences 3MT heat. Hidden Vale PhD student Alex Jiang won the heat, and PhD student Caitlin Ford was awarded runner-up. Alex went on to compete in the Faculty of Science finals and placed second.

SIGN UP To subscribe to *Hidden Vale Tails* or to find out more about the Hidden Vale Wildlife Centre, visit **www.hiddenvalewildlife.uq.edu.au**

Supporting Australian Wildlife Preservation

The Turner Family Foundation is a not-for-profit environmental organisation established by Jude and Graham "Skroo" Turner and their children, Matt and Jo.

The Turners have a passion for preserving Australia's flora and fauna, and the Turner Family Foundation is their vehicle to promote positive environmental outcomes on their landholdings and more broadly.

Hidden Vale Tails is published quarterly. It shares the work of the Turner Family Foundation, University of Queensland and the Hidden Vale Wildlife Centre.

We trust you enjoy each issue.

SCHOLARSHIP OPPORTUNITY

The Turner Family Foundation is offering scholarships of $7000 per year for three years. These scholarships are open to UQ Doctor of Philosophy candidates researching conservation topics relevant to the Hidden Vale Project. Applicants must be in receipt of (or apply for and be awarded) a living allowance scholarship of at least the Research Training Program rate to be eligible to receive this top-up.

More information is available at: http://bit.ly/HVTopUps or email hvw.enquiries@uq.edu.au

To find out more and to show your support, visit The Turner Family Foundation website at: **www.turnerfamilyfoundation.com.au**