The Escarpment Park Friend December 2024

Committed to Escarpment Park Care since 1994

www.fep.org.au

Welcome to December 2024 newsletter.

Update from the FEP committee:

Online Membership
We hope that members are enjoying our new website, https://fep.org.au . One feature we would like to install is an online member only area. Members will be able to login, update their details including subscriptions, read committee meeting minutes, contribute items or comments to the website, and in the future to pay their membership online. To use this feature, members will have a user name and password. We intend to link all members. Please email Elizabeth Addie, president@fep.org.au if you have any questions. If you would like to OPT OUT of the "member only area" please let Elizabeth know.

Weekly News Summary
FEP receives communications from various environmental and community groups with their news and events which are now being posted to the blog page of our website: https://fep.org.au/blog. We would also like to send out brief weekly updates of our blog news and events to keep members well informed. For this purpose, we are subscribing all members to our weekly news, with the option of unsubscribing at any time.

Biocontrol release in Highfields Falls Park as part of the NRRP. (Natural Resources Recovery Program)
Renee Ould.
Senior Scientist – Sustainable Agriculture Facilitator

At the Highfields Falls Park, 400 cat's claw creeper (*Macfadyena unguis-cati*) jewel beetles were released. I have attached photos from my last follow up visit at the start of July – the beetles hadn't done any significant damage yet, however I could still spot a few beetles. I'm hoping to visit the site again in the New Year

Please see the below link for a recent article Healthy Land & Water released on the activity that spanned across Main Range and Little Liverpool Range.

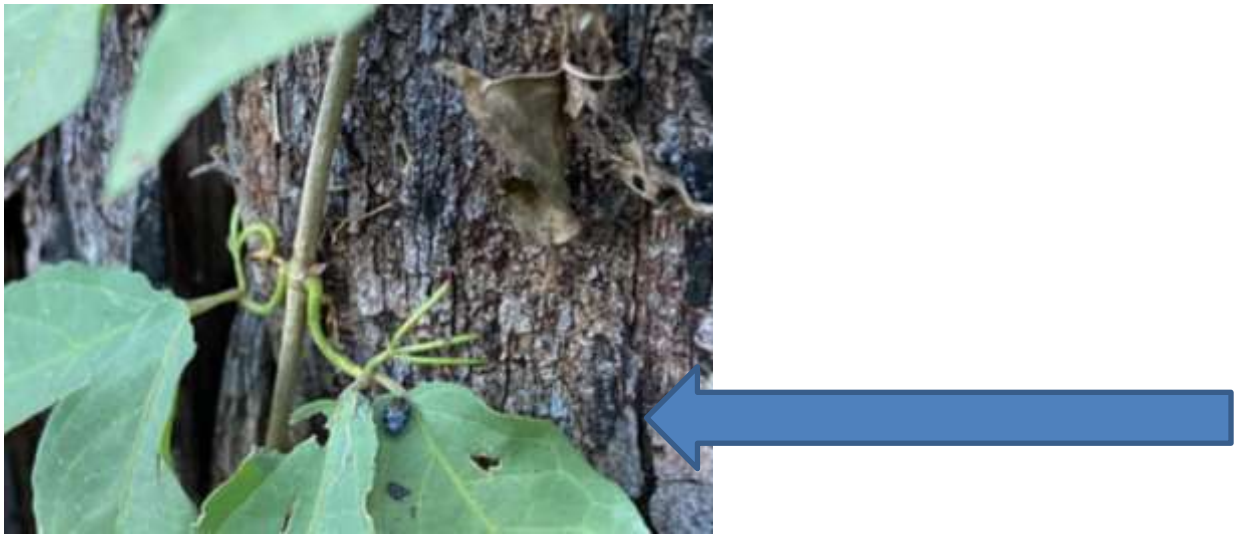
https://hlw.org.au/news/chewing-those-invasive-weeds-away-biocontrol-beetle-release-to-support-seq-native-vegetation#gsc.tab=0

Weed - Cat's claw creeper (*Macfadyena unguis-cati*)

A vigorous woody climber with tendrils ending in 3 sharp, hooked claws. Opposite leaves have 2 leaflets approximately 5 cm long and 1.5 cm wide. Large yellow flowers develop to capsules 15-45 cm long containing numerous winged seeds. *© Weeds of Southern Queensland* 3rd edition, 2011. Weed Society of Qld, Inc.

Cat's Claw Creeper Photo: Sheldon Navie

Jewel beetle on Cat's claw creeper Image: Renee Ould



Jewel beetle on Cat's claw creeper Image: Renee Ould

Cat's claw creeper is a native of tropical America and is an aggressive climber that was used as an ornamental in older-style Queensland gardens. This vine has the ability to completely smother native vegetation, even growing up over trees, and many bushland areas already have serious infestations of this weed. The vine has a vigorous root and tuber system, which adds to difficulties in

controlling the weed. Cat's claw creeper has been recognised as a Weed of National Significance due to its invasiveness and potential impacts. Cat's claw creeper is a category 3 restricted invasive plant under the Biosecurity Act 2014.
Use a pruning saw, machete or brush hook to cut all leads/ stems up the trees. All above the cut will die, but regrowth will occur from the underground tubers. Digging the tubers out is not practical in most cases. Using the cut-stump method, cut the lead as close to the ground as possible and quickly spray/paint the base with the herbicide. All herbicides must be applied strictly in accordance with the directions on the label and the conditions in the APVMA permit.
Because of the multitude of tubers the herbicide tends to knock them down one at a time with new regrowth coming from the next tuber. Be prepared to continue control over the next five years.
More information is available from biosecurity.qld.gov.au.

Local Plant *Thysanotus tuberosus*

Thysanotus is a genus of about 47 species all of which occur in Australia. Two of these species also occur outside of Australia. They are perennial herbs with 'lily-like' flowers that are characterised by the distinctive fringed margins to the flowers. Each flower only opens for a single day but new flowers are produced over an extended period. Copyright 2024 ANPSA, (https://anpsa.org.au/plant_profiles/thysanotus-tuberosus/).

Thysanotus tuberosus Table Top Mountain Bushland Reserve. *Image: Max Henderson*

Local Native Plant – *Clematis aristata* Old Man's Beard

Description: Vigorous woody climber to 6 m high.

In spring to early summer it produces mass displays of attractive star-shaped flowers usually borne in short panicles with each flower up to 70 mm diameter and possessing four narrow white or cream sepals. Fertile male and female reproductive structures occur in flowers of separate plants, male and female flowers are similar. The flowers are followed (on the female plants) by the fluffy seed heads which give rise to the common name.

Wikipedia®

Leaves mostly ternate (or simple on juvenile plants); simple leaves and leaflets ovate, usually 20–100 mm long, 10–45 mm wide, margins with few to many teeth or occasionally entire, if teeth numerous then spaced ± evenly around margin. *Royal Botanic Gardens and Domain Trust*

Mature leaves may have a whitish colour along the main leaf vein ("Plants of Southeast Toowoomba's Bushland Parks", Condamine Country Plant Group).

Clematis aristata in bloom, Highfields Falls. *image: Penny McGowan.*

From the Archive

The documents archived from the early days of FEP work on the escarpment contain a lot of information. There are detailed reports containing vegetation types, species lists, maps and photographs. Some of these studies were prepared for the Toowoomba City Council (as was). It is planned to have these documents scanned and copied onto the FEP website for general viewing. Please contact me for more information, Penny McGowan editorfep@gmail.com.

The following is the first in a series exploring the documents from the archive in date order as much as possible:

1987

One of the earliest documents is a flora checklist for Redwood Park Fauna Reserve, 26/12/1987 prepared by P I Forster of the Botany Dept., University of Queensland, St Lucia, 4067.

In the introduction, the area of study was said to comprise '40 ha of semi-evergreen vine thicket at the base of the Toowoomba Range and extending up along the adjoining ridge. The soil type is predominately red euchrozem with outcroppings of rock at higher level. Common canopy taxa are *Casearia multinervosa, Austromytrus bidwillii, Planchonella cotinifolia, Rascosperma –asciculiferum* and *Streblus pendulinus*… This locality preserves valuable remnant of this vegetation type. Important distributional records are *Monocuccus echinophorus* and *Austromyrtus acmenoides* (both rarely recorded)'.

The document then has a detailed tabulated list of plants within families, genera and species arranged alphabetically.

1990

The second document is a list of 29 weeds seen in Redwood Park, prepared by J T Swarbrick, dated 18/05/1990.

The species of weeds include; Broadleaf privet (*Ligustrum lucidium*), *Lantana camara*, Mother of millions (*Kalanchoe tubiflora*) and Velvet tree pear (*Opuntia tomentosa*).

1993

A weed eradication tabulated plan (below) with columns headed; Objective, Aims, Strategies.

The structure of this document is in keeping with Dr Swarbrick's scientific method and interest in recording weed/exotic species.

The individual strategy entries show again, a logical progression towards the four aims as specified, in order to achieve the overall goal, which is to regenerate the escarpment parks to their natural state.

These strategies have been observed for the most part; several surveys are in the archive and FEP's publication of 'Plants of the South East Escarpment' is a modern example of species documentation (aim 2). The continuing relationship FEP has with the Crow's Nest Community Nursery has enabled the use of a greater quantity of local provenance plants for regeneration work (aim 4).

Weed Eradication.

OBJECTIVE	AIMS	STRATEGIES
• To maintain and manage the flora, within the escarpment parks, to reflect the diversity of plant species that occurred prior to European settlement.	• To develop a map of the plant communities of each park.	• Using existing maps, aerial photography, ground truthing and other relevant techniques develop plant community maps for each of the parks, by November 1993.
	• To develop an inventory of native and exotic plant species for each park.	• Complete 'total description' flora surveys of each of the 6 smaller parks by March 1994. • Commence detailed flora surveys of the plant communities of the larger parks by March 1994. The surveys should be completed by June 1995.
	• To record and monitor changes in flora of the parks, especially the presence of invasive species and the effects on native plant communities.	• Identify native species that are at risk to unnatural processes by June 1995. • Undertake surveys of selected sites at 2 year intervals and after major disturbances eg. fire, drought, violent storms etc. to monitor changes in plant communities.
	• To undertake regeneration projects using local seed sources.	• Co-ordinate the collection and storage of a local seed bank. • Commence regeneration projects at appropriate sites, by March 1994, using local seed sources.

Weed eradication table

News from Highfields Falls

UniSQ students Karoline and Larissa have kindly put together the following article to explain the work that they have been doing using the macroinvertebrates from Highfields Falls. The work is still in progress, but they hope to have some results to share in the near future. Jarrod.Kath@unisq.edu.au.

Understanding the Role of Aquatic Insects in Stream Ecosystems

Karoline Victor Serpa, MSc

Larissa Corteletti da Costa, PhD

Aquatic insects played a crucial role in our study of stream ecosystems, especially in leaf litter decomposition, which is essential for nutrient cycling in freshwater environments. In this experiment, we focused on understanding how different concentrations of a common glyphosate-based herbicide could affect the growth and survival of these insects, shedding light on the potential impacts of agricultural practices on these important organisms.

Why Aquatic Insects Matter

Aquatic insects, such as mayflies, caddisflies, and stoneflies are important "shredders" in the decomposition process. These insects consume decomposing leaves, breaking them into smaller particles that microorganisms can further breakdown. This process not only aids in nutrient cycling but also helps maintain the health of stream ecosystems by preventing the accumulation of organic material that might otherwise reduce water quality.

Our Experiment

Our study observed the feeding behavior, growth, and survival of aquatic insect larvae (*Anisocentropus* sp., Trichoptera) when exposed to a different concentration of a common glyphosate-based herbicide.

Shredders Sampling

In October 2024, *Anisocentropus* sp. larvae were collected from leaf patches in Murphy's Creek, Queensland (Figure 1) from Highfields Falls. In the lab, larvae of similar size were kept in individual cups under controlled light and temperature (Figure 2).

Fig. 1 Murphy's Creek, Queensland.

Fig. 2 *Anisocentropus* sp. larvae used in the experiment (removed from their leaf case).

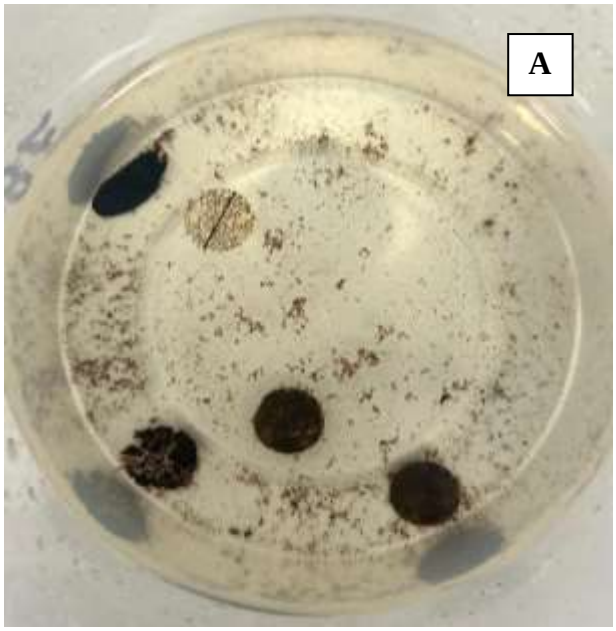
Leaves

Senescent leaves of *Eucalyptus* sp. were collected near the stream and incubated underwater for two weeks in fine mesh bags to promote microbial conditioning (colonization by bacteria and fungi) (Figure 1).

Monodietary Experiment – Growth and Survival

To test glyphosate effects, the larvae were exposed to leaf discs conditioned with three concentrations (1500, 3000, and 6000 µg/L) (Figure 3). Each treatment included 20 replicates, and the larvae were monitored over four weeks (Figure 4A, B). Fine Particulate Organic Matter (FPOM) production rates were calculated by filtering and drying water from each replicate weekly (Figure 5).

Fig. 3 Glyphosate manipulation.



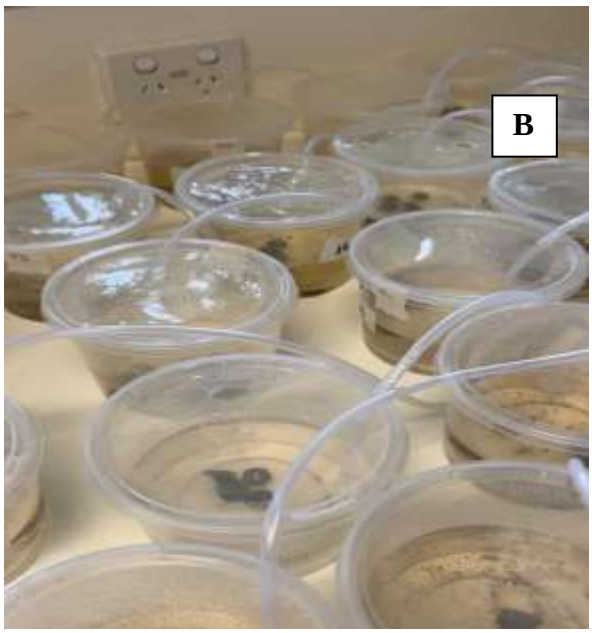


Fig. 4 (A) Larvae exposed to leaf discs conditioned with glyphosate concentrations;

(B) Aquarium treatments replicates.

Fig. 5 FPOM production in the experiment.

Next Steps

In addition to its direct influence as a stressor on aquatic organisms' development, glyphosate concentrations can influence the nutritional nature of the leaves and the microbial assemblages associated with them. We, therefore, plan to conduct a detailed chemical analysis of the leaves from the experiment. This analysis will allow us to examine specific chemical and microbial changes that may explain feeding preferences and patterns, providing a clearer picture of how glyphosate concentrations influence aquatic insect development.

We hope to bring you news on some insights from our research and how this might help us better understand and manage freshwater ecosystems.

Larissa Corteletti da Costa, PhD

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Karoline Victor Serpa, MSc

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Members of FEP Highfields Falls Bushland Park enjoyed a tour of the prize winning native garden of Chris Purchase in Highfields.

Image: Vicki Smith

Chris (third from left) achieved 3 prizes in the Toowoomba Carnival of flowers competition, which she entered as a way of encouraging people to use their garden as a biodiverse place. Her garden has almost 95% Australian plants of which about 30% are locally native plants.

Using just compost and ground covers to keep the soil cool, Chris has incorporated beautifully arranged areas of meadow, native vines, rain forest sections and a calm, green outdoor area.

It was a pleasure to visit Chris and her garden, and it was encouraging to recognise so many beautiful plants from our region on display.

Local native thistle. (Photo next page)

(*Leuzea australis* Gaudich previously named *Rhaponticum australe)*

This plant is also known as austral cornflower and is a member of the Asteraceae (sunflower) family. It is an erect, herbaceous perennial growing to 60 cm high. The stems are covered with woolly hairs. The flowers are clustered into terminal heads 36 cm in diameter, the outer and intermediate bracts are ovate and rough to touch.

Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status is Vulnerable.

Conservation is classed as significant.

Photo: *Rhaponticum australe* - Queensland Herbarium, DES, 2007.

Image: taken by Supa. Picnic Point bushland reserve

Eustrephus latifolius Picnic Point bushland Image: Supa

Williams Park

Location: Accessed by Cecil Crescent or Mavis Court in Highfields.

Williams Park is a narrow rainforest gully park supporting an ecosystem of ferns, rainforest trees, some eucalypts including *Eucalyptus saligna* (Sydney blue gums) and a diversity of vines. Invasive species such as jasmine, honeysuckle, asparagus fern, camphor laurel, lantana, privet have also invaded the park. A pleasant 1.3km walking track which follows Klein Creek circumnavigates the park. There is a picnic table, drinking water and toilet facilities on the southern side of the park (Cecil Crescent).

Link to walking trail map: file:///Users/elizabethaddie/Downloads/WilliamsPark.pdf

Notice

The 2025 FEP open day is going to be at Williams Park, Highfields next year. Good facilities are available beside the bush area and it will be an opportunity to advertise the new working group.

More details to follow.

Image: Williams Park, taken by Ms Sams

In August**,** FEP members had the chance to farewell Coral Sharrock (centre, fifth from left), before she moved to Beaudesert to be near her family. Her last letter mentioned that she was looking for an environmental group to work with.
Coral has been a very active member of FEP and worked with several park groups over the years. We wish her well in her retirement.

Below are the records for Coral's incredible work in various parks.

Zone	**Park**	**Last date recorded**	**Hours recorded**
RW	Redwood Park	04-March-2024	5504
N	Nielsen Park	27-January-2024	1632
DUG	Duggan Park	23-October-2021	1000
HAN	Hancock Street Park	15-February-2024	3120
HART	Hartmann Reserve	13-December-2023	3928
PAN	Panorama Crescent	20-January-2024	408
ECHO	Echo Valley South	09-December-2023	728
ROG	Rogers Reserve	01-September-2023	96
HF	Highfields Falls	26-November-2020	208
		Total hours	**16624**

"Vale Euan McLean 27/8/36 to 20/9/24. Euan was one of the original members of FEP. His legacy includes the "Root Blade" the modified shovel that members of FEP still use."

FEP Bush care groups are volunteers carrying out bush regeneration activities in our local bushland parks. Bring your gloves, hat and water. Other details are available on https://fep.org.au/volunteer/park-care/

FEP Bush Care Parks and Groups

Name of Park	Locality	Coordinator Contact Details	Schedule
Charles and Motee Rogers Reserve Highfields	Highfields	Dougal phone number: 0409 920 399.	9am on first and fourth Fridays of the month
Duggan Park (Leslie & Collier Streets, Rangeville)	Rangeville	Kaye 0402 183 087 kwoodriley@gmail.com	Second Saturday of the month From 8 am
Echo Valley South Park (Ramsay St)	421 Ramsay St Middle Ridge	Greg 0428 288 077 glukes@bigpond.com	Second and fifth Saturday & First, third and fifth Wednesday at 9 am
Hancock St Park	Rangeville	Shirley 04 1774 0887	Every Thursday Summer: 7 am – 10:30 am Autumn – Spring: 7 am – 11 am
Hancock St Park Microforest Group	Rangeville	Eddy van Klinken 0409 421 545	We meet as required.
Hartmann Bushland Reserve	Rangeville	Greg 0428 288 077 glukes@bigpond.com	Second and fourth Wednesday From 9 am
Highfields Falls Bushland	James Byrne Rd, Highfields	Jane 0423747169 jane.butler@westnet.com.au	Every Tuesday 9 am – 12 pm
Leopard Ash Bushland Park, Kleinton (Near Highfields)	Kleinton	Michael 0417 802 817	First Saturday 9am – 12pm
Panorama Crescent Park	Prince Henry Heights	David panorama.crescent.park@outlook.com	Third Saturday 9 am – 12 pm

Nielsen Park	Middle Ridge Meet at Colman Drive entrance	Rob 0407 124 863	First and fourth Saturday 9 am – 11 am
Redwood Park	Toowoomba Range	Hugh 0418 748 282 Kaye 0429 424 985 hkrenske@gmail.com	Every Monday and Thursday. Summer: 7 am – 9:30 am. Autumn and Spring: 7:30 am – 10:30 am Winter: 8 am – 10:30 am
Redwood Park Prince Henry Drive FEP Group	Prince Henry Heights	Tom 0438 441 188 tom@tomesplin.com	Every Tuesday 7:30 am to 10:30 am
Skyline Drive Escarpment Park	Blue Mountain Height The worksite is from the end of Rangeview Rd, Blue Mountain Heights	Christel 0448 329 008	First Sunday of the month 8 am – 9 am
Stenner Street Park	Middle Ridge	Claudia Claudia.stephenson@bigpond.com	We meet as required
Williams Park	Cecil Crescent, Highfields QLD	Karen Sams samskaren31@gmail.com mob: 0419 101 555	Monday mornings 10am – 12pm.

FEP Key Contacts

FEP President – Elizabeth Addie president@fep.org.au

FEP Secretary – Rob Brodribb secretary@fep.org.au

Thank you to our contributors;

Please send newsletter contributions to Penny McGowan: editorfep@gmail.com

Friends of the Escarpment Parks Toowoomba Inc. acknowledges the Traditional Custodians of this region, including the Jagera people, the Giabal people and the Jarowair people, whose song lines traverse this land on which we work. We pay our respects to Elders past and present

Redwood Park Image: Bernard McGowan

Friends of the Escarpment Parks
TOOWOOMBA Inc.