

Upper Hopkins Land Management Group Newsletter



Summer 2018

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Diary Dates

Ararat Landcare Group—St Andrews Church Hall, Ararat. Next meeting Monday 4th February

FarmPlan21—Shire Hall, Barkly Street, Ararat

13 February – 20 March
(Wednesdays for 6 weeks)

Maroona Windfarm Community Fund—Last day for EOI for projects to be funded in 2019. Thursday 28th February

Welcome to the Summer 2018 edition of the UHLMG newsletter

Editor: Una Allender

Local Landcare Snippets

Upper Hopkins LMG members joined with the Maroona Mob for an end of year social evening. Nick Petropoulos of “Wicked Wildlife” brought along a Wombat and a selection of reptiles including Mrs Spot (a small python), Big Mac (a carpet python) several lizards and a Komodo Dragon. Nick shared his considerable knowledge of the animals in his care and the children present were able to touch and pat them. Nick related some interesting facts about these creatures including that crocodiles, (and he had a very small one) are a very ancient species, pre-dating dinosaurs and that Wombats have square scat!! Nick is passionate about his animals and their conservation status—many are severely endangered.

Maroona Wind Farm Community Fund. Expressions of Interest for the 2019 funding for projects in the Maroona area will close at the end of February and the Selection Panel will meet shortly after that. Please contact Una Allender uallender@bigpond.com 0419 891 920 or Jack Tucker jack@tuckerfarms.com.au 0427 547 636 for more information.

Woorndoo Land Protection Group recently held a well attended VVP Grassland workshop. The group is working on a grassland restoration project on the Woorndoo-Streatham Road. The two year project includes detailed scientific experiments on planting and sowing grassland species and the restoration of 1.25ha of diverse temperate native grassland. Discussion at the workshop, and at an earlier CFA workshop highlighted the benefits of having well managed native grassland on roadsides for fire safety. VVP grasslands do not burn with the same intensity as phalaris. *See photo on page 8 comparing flame heights.*

I would like to wish all our readers a joyous Christmas and a happy New Year. *Una A*

Just in time for Christmas, a festive installation has appeared at the foot of the Bullock Hills providing an essential facility for Santa on his long journey. Photo: U. Allender



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The Upper Hopkins Land Management Group is grateful to the Glenelg Hopkins CMA and the Victorian Government DELWP & DEDJTR for their support of group activities and the production of this newsletter.



Spring Bird Monitoring

By David Nichols, Glenelg Hopkins CMA

On Sunday the 14th of October, the Upper Hopkins Land Management Group conducted their spring round of the Woodland Bird Monitoring project. Eight people attended and experienced warm but quite windy conditions in which to conduct the surveys. At each of the three sites between 10 and 11 species were recorded.

Sometimes it can be interesting to note what you are not recording as much as what you are. In a season when a range of cuckoos, whistlers and honeyeaters are very common sights and sounds in the bush and on farms, precious few were seen or heard on this occasion.

Despite the lack of various other species of honeyeaters, Yellow-faced Honeyeaters were found in good numbers at all 3 sites, as were Superb Fairy wrens. Another pleasing aspect of the surveys was the recording of 4 different species of Thornbill, these were the Buff-rumped, Yellow, Striated and Yellow-rumped Thornbills. Weebills were also recorded at the Burrumbeep Road site, the first time at this site since commencing the surveys.

The next Woodland Bird survey will be conducted next autumn – probably in April.



Clockwise from above: Yellow Faced Honeyeater, Yellow Tufted Honeyeater, Red-capped Robin (Photos: D. Nichols) Male Blue Wren (R. Drummond)

Below: Yellow Thornbill



Water for wildlife in hot weather

With summer now upon us it is worth remembering the value of putting out some additional water sources for native wildlife – especially birds. These can be a real benefit for the birds and also a great place to view native birds when they come in for a drink at the end of a hot day. Baths that are raised are likely to be safer for birds from predators such as cats. While nearby cover (shrubs) and perches may assist birds feel comfortable as they come into water. Baths near vegetation such as large native tussocks can also double as great areas for frogs on a warm evening.

NRM Work across the Ararat Hills

By Dr Jane Walker, Glenelg Hopkins CMA

Celia and Jack Tucker, from Tucker Farms, recently hosted a field trip for the Glenelg Hopkins CMA Board and Community Advisory Group. The afternoon was spent exploring the Ararat Hills to understand and see firsthand the diversity of natural resource management work occurring in the area.

Some of the sites visited included the 55 hectare predator proof enclosure protecting a range of native mammals and reptiles; the Grampians to Pyrenees Biolink project which was run to increase carbon stores and improve connectivity between the Grampians and the Pyrenees Ranges for the benefit of a variety of nationally threatened species; wind farm initiatives; Landcare grant activities; and fire recovery projects.

Jayne Drum from the Upper Hopkins Land Management Group also talked to the group about the Integrated Pest Management (IPM) program being run by landholders across the region, supported by Dion Borg (the Glenelg Hopkins CMA Regional Agriculture Landcare Facilitator).

The afternoon was a great insight into the range of biodiversity and sustainable agriculture projects and programs that are being implemented as partnerships between landholders and the CMA in the eastern Grampians region.



Photo: CMA staff, Board and Community Advisory Group members inside the predator proof enclosure at Tucker Farms

Ararat Landcare Group

By Una Allender, Facilitator, UHLMG

Jim Stringer is the new Chair of Ararat Landcare Group with past chair Stephen Hughan stepping down from the role at the November AGM. The well attended AGM was treated to an interesting presentation from Cameron Flowers, Project Officer with the Mallee CMA.

Cameron grew up in Ararat and his work at Lake Tchum was featured in a recent Victorian Landcare magazine. Cameron talked about his work on the Southern Mallee Project which includes revegetation work with fencing and rabbit control. Both feral pigs and kangaroos are a problem and the change from open irrigation channels to the pipeline has altered the distribution of kangaroos which now seek out troughs and dams.

Much of the work is done by contractors. Tubestock is planted into a slurry in May/June and often watered in the first year. The minimum width for a funded project is 20 metres and although local provenance species are preferred, salt tolerant plantings are used where required eg. Salt Bush, Albacutya Red Gum.

In Patchewollock State Forest a Mallee Fowl corridor is being created. Feral goats are a problem there and are being trapped and removed.

Much work is done on weeds of National Significance eg. African Boxthorn, Prickly Pear and Wheel Cactus. Rabbits are also a problem and are controlled by ripping and fumigating burrows and laying baited carrots.

Cameron receives many requests from landholders for funding to revegetate "tight corners" which are not easily accessible by cropping machinery. (*Note that BBCAG are working on a similar project—see page 4)

Volunteer Award: The Ararat Landcare Group was the recipient of an Australian Government Volunteer Award at a recent function presided over by member for Wannan Dan Tehan. Keith Little was delighted to accept the award on behalf of the group and was even more delighted to be presented with a framed photo of the presentation at the group's Christmas dinner meeting in December. (Photos page 8)

Upper Hopkins Farm IPM Project

We are wrapping up the Heliothis monitoring for 2018. Many thanks to our trap monitors for 2018 and to Jayne Drum for her coordination of the project.

SITE	WEEK 1 - 24 Sep		WEEK 2 - 01 Oct		WEEK 3 - 08 Oct		WEEK 4 - 15 Oct		WEEK 5 - 22 Oct		WEEK 6 - 29 Oct		WEEK 7 - 05 Nov		WEEK 8 - 12 Nov	
	<i>H. punctigera</i>	<i>H. armigera</i>														
Willaura	3	0	1	0	6	0	1	0	3	0	0	0	0	0	3	0
Willaura Nth	n/a	n/a	0	0	0	2	0	0	4	0	3	0	0	0	6	1
Yalla-Y-Poora	n/a	n/a	0	0	0	1	0	0	3	0	0	0	n/a	n/a	0	0
Ballyrogan	n/a	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rossbridge	0	0	2	0	56	0	1	0	9	0	0	0	n/a	n/a	0	0
1 Wickliffe	0	n/a	28	n/a	2	n/a	11	n/a	33	n/a	0	0	0	0	0	0
2 Wickliffe	n/a	n/a	2	n/a	34	0	54	0	0	1	0	0	0	0	1	0

Comment provided by Paul Horne, IPM Technologies (November 2018):

The counts of both species of Heliothis over the last two weeks has been low although there is some activity. This is quite different now to areas near Melbourne where counts have been very high and there has been a lot of egg-laying by the moths. This suggests that there will be pockets that have much greater pest pressure than others, so I suggest still keeping a look out for caterpillars.

The UHLMG Farm IPM Project 2014-18 is supported by Glenelg Hopkins CMA, through funding from the Australian Government's National Landcare Programme

Hopkins Wetland Restoration Project

By Tania Parker, Glenelg Hopkins CMA

Following a period of advertising for wetland projects in the Upper Hopkins catchment in October this year, sites are now being assessed using the Index for Wetland Condition (IWC) and potential projects developed.

Changing focus from 2 years of funding on the Mt Emu Creek, this is Year 1 of a 2-year State funded wetland project, with projects being developed through Glenelg Hopkins CMA's Partnership Projects funding program.

Projects to date include fencing, strategic grazing management, fox baiting programs and the potential to restore hydrology to wetland systems, all of which are planned for completion of on-ground works in 2019.

A range of wetland types and sizes have been looked at over the last month. More sites will be required for the second year.

For more information, contact Tania Parker at Glenelg Hopkins CMA on 5571 2526.



Above & below: Examples of 2 wetlands assessed as part of the Hopkins Wetland Restoration Project. *Photos: T. Parker*



Transforming tight corners into areas of valuable habitat

By Jileena Cole, Facilitator, Beyond Bolac CAG

Tight corners in cropping paddocks can be a headache when using autosteer sprayers and air seeders. They occur in places such as where angled fences intersect, around the sides of swamps, and near rocky barriers.

These corners add time to farming operations, and are often the spot where things go wrong, such as getting bogged or hitting fences. In many cases the small amount of land involved doesn't add very much to the yield of a paddock compared to the extra effort.

The Beyond Bolac catchment has many tight corners scattered across the landscape. We would like to make contact with farmers who are interested in planting these patches to trees while making their cropping operations more efficient. We see it as a win/win proposal, to show that the biodiversity of our district can be enhanced without involving a burden on productivity.

BBCAG Revegetation Projects

The Beyond Bolac Catchment Action Group (CAG) works to secure sources of project funding and to provide guidance information. We have a good track record in attracting funding for revegetation and fencing projects. Over the next couple of years there will be seedlings available of rare trees and shrubs such as banksias, that used to be common in this district. The plan is to hold a mid-winter information session and barbeque (late July) for interested farmers after this year's crop has been sown. We encourage you to get in touch.

Tel: 0409 506 533

Email: beyondbolac@outlook.com

On-Farm Energy Grants

Agriculture Victoria have announced that applications for tier 2 and 3 on-farm energy grants have now opened.

To be eligible to apply, you must have completed your FREE on-farm energy assessment.

Applying for a free on-farm energy assessment doesn't mean you must apply for a grant or make any up-front investments. Undertaking an on-farm energy assessment will provide you with advice and a plan to reduce on-farm energy consumption and bills, which may not require any further up-front investments.

Once an on-farm energy assessment is made, you might elect to make simple changes in management practices or decide to apply for a grant which could help you make equipment changes identified in the on-farm energy assessment.

To apply for a grant or for an on-farm assessment please visit Agriculture Victoria's website: <http://agriculture.vic.gov.au/agriculture/farm-management/agriculture-energy-investment-plan/grants>

Boomerang Bags have arrived in Lake Bolac

Thanks to the efforts of Lake Bolac resident Karen Davidson, a small group of local sowing ladies, and the support of Lake Bolac College, we now have a crate full of re-usable shopping bags in the Lake Bolac Supermarket. Boomerang Bags are so called because they are "borrow and bring back" bags. Their use will help reduce littering around the lake and waterways while promoting Lake Bolac township and the College.

Stavely Arc Exploration Update

By Una Allender, UHLMG Facilitator

You may already be aware of the proposed Stavely Arc mining exploration project being managed by DEDJTR. There was an information session in Ararat recently and the news is that 6 of the 11 blocks (Blocks 1,3,4,9,10 & 11 on the map below) have had an exploration company put in a successful tender to apply for an exploration licence.

The license applicants for Blocks 3 and 4, the two areas of most interest to Upper Hopkins LMG members are:

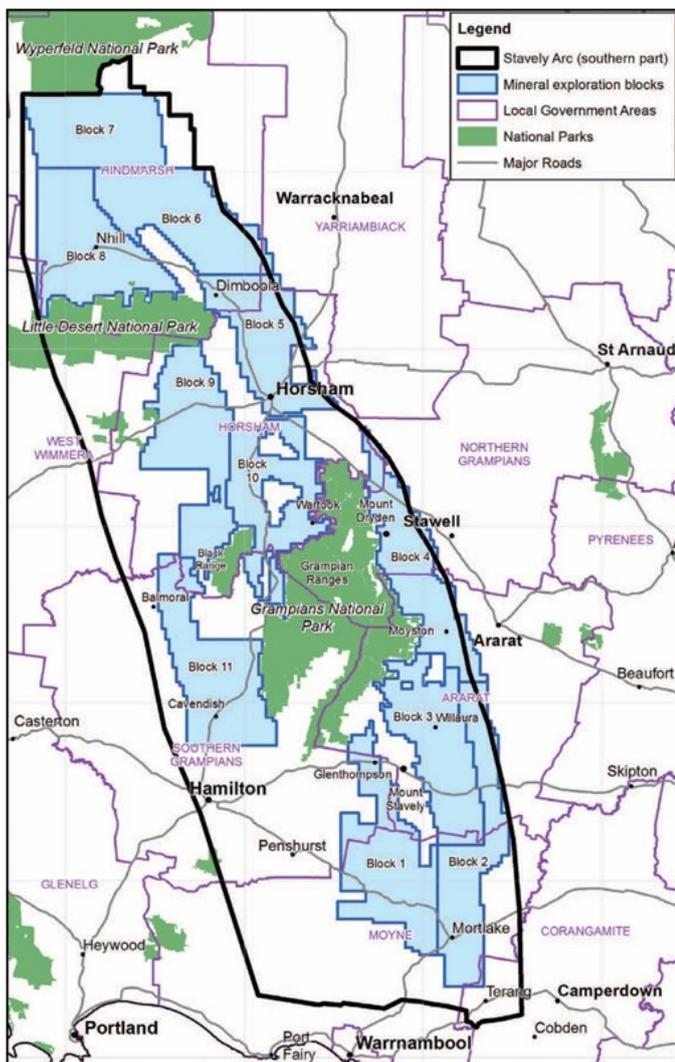
Block 3: Stavely Minerals, Chris Cairns, Managing Director
Email: info@stavely.com Tel: 08 9287 7630

Block 4: Gippsland Prospecting, Kent Balas, Managing Director
Email: kbalas@gippslandprospecting.com
Tel: 0401 741 369

You are advised to contact the companies directly for more details of their proposals.

People wanting more information about what this means for landholders and communities should talk with Annie Farrow DEDJTR, Melbourne. Tel: 8392 9028, Mob: 0418 293 419 or annie.farrow@ecodev.vic.gov.au

OR register your interest at <http://earthresources.vic.gov.au/earth-resources/industry-and-investment/stavely-ground-release/communities/find-out-more>



Farmers classifying soil at the Beaufort FarmPlan21 course

FarmPlan21 Course -Ararat

By Clem Sturfels, Agriculture Victoria

Agriculture Victoria and the Glenelg Hopkins CMA invite you to participate in a whole farm planning course to be run at Ararat in early 2019. Family members are also welcome to attend. Lunch and morning tea will be provided.

Date: 13 February – 20 March

Day: Every Wednesday for six weeks

Time: 9 am – 3 pm

Venue: Shire Hall, 223 – 239 Barkly Street

TOPICS:

- Computer mapping
- Soils & land classing
- Farm design & layout
- Farm water supply
- Pasture & grazing management
- Biodiversity & shelterbelts
- Climate, vision & goals
- Biosecurity

Contact: Clem Sturfels, 5355 0535, 0429 018 879
clem.sturfels@ecodev.vic.gov.au

RSVP: by Wednesday 30 February (please have your PIC number handy)

Cost: Course is fully sponsored by the Glenelg Hopkins CMA

Fire: Individual sessions will be cancelled or postponed on Code Red Days

“Attending the FarmPlan21 course and developing a whole farm plan will lead to an increase in the farm’s productivity, profitability and sustainability. I would strongly recommend this course to other farmers.”

Troy Smith, Manager, “Mawallock”, Stockyard Hill.

“Regardless of the scale of your farming operation Farm-Plan21 will be of great value. It has given us a blueprint of how we manage water on our property. Specifically, it has helped design a stock water reticulation system.”

Mick and Susan Davis, Moyston.

This project is supported by Glenelg Hopkins CMA with funding through the Australian Government’s National Landcare Program.



Book Review “Restoring Farm Woodlands for Wildlife”

By Peter Homan, Ecologist

Over the last 20 years David Lindenmayer and colleagues from the Australian National University have been working with farmers, especially from the south west slopes of New South Wales, on the preservation and restoration of woodland areas. Much of their extensive research has been published in scientific journals and in several books. However, in the last five to ten years there have been major new insights into the effectiveness of woodland restoration. This new book brings together all previous published material as well as more recent important information on woodland restoration and wildlife conservation on farms.

In the Introduction chapter the authors point out that this new book focuses on tree plantings on farms to effectively restore habitat especially for birds, but also mammals and reptiles. The other six chapters cover all aspects of revegetation on farms including what to plant, where to plant, the shape, size and structure of plantations and, most importantly, the on-going management and monitoring of revegetation projects. Each chapter concludes with a very good summary of all the important points covered. Common names are used for each animal mentioned in the text and an appendix is included showing the scientific names for each species.

Many past plantings on farms have been narrow and have focused mainly on over-storey species such as eucalypts and sheoaks. The book makes the point that the overall structure and size of a plantation is vitally important. An understorey, shrub layer and ground cover need to be incorporated into revegetation plans so as to provide the best habitat for a range of woodland birds. The size and shape of plantings also plays a major role in providing optimal habitat. Bird species richness increases with increasing planting size and width. Plantings should, where possible, incorporate existing remnant patches of woodland or large, old-growth paddock trees. Areas with rocky outcrops or fallen logs should be targeted. However, remnant native grasslands, which were generally always treeless, should not be planted with trees.

Important management issues are covered including fencing, the use of nest boxes, planning for fire, grazing of plantations and pest animal control. The authors point out the need to provide appropriate fencing and gates and to regularly check the condition of fences. Nest boxes are covered in some detail, including the need to use properly designed boxes and the importance of on-going maintenance. Several nest box programs in parts of Victoria have been complete failures due to poor design, poor construction, lack of maintenance and poor placement in trees.

The importance of fallen logs as wildlife habitat is mentioned throughout the book. However, the authors fail to talk about the option of using artificial habitat. Many farms have piles of old fence posts lying about out behind sheds. Old fence posts, especially those with cracks and holes, make excellent wildlife habitat, especially for reptiles. A number of studies have recognised the value of fence posts and other artificial habitat. Indeed, a previous book by the ANU researchers points out the value of artificial material.

Apart from that one omission, this new book covers virtually all issues relating to revegetation of woodlands for wildlife on farms. It should be a valuable and essential reference for any land holder who is currently involved in restoration work or who is considering establishing plantings for wildlife.

Grampians Pyrenees FARMher project

By Anna Greene, FARMher Project Manager

The Grampians Pyrenees FARMher Project is seeking rural women to interview and/or take part in a focus group session



We'd love to hear **your** story; how you came to live where you live?

What are the roles you play and duties you undertake in everyday life around your work, your community, your health & wellbeing? What are some of the challenges you have faced or are experiencing? Where would you like to see more support for rural women?

Through this process we want to:

- Celebrate the contribution rural women make to the rural sector across the Grampians Pyrenees region
- Better understand the challenges they are facing
- Gather ideas and suggestions around where further support is needed.

You can opt to remain anonymous for the interviews and not have your information shared, or you can take part in something bigger that we hope to showcase in our next phase of the project – lots of choices! Please get in touch with me and I can tell you all about it.

Contact: Anna Greene, Project Manager, Grampians Pyrenees Primary Care Partnership (GPPCP), Ararat.

Tel: 03 5352 6224

Mob: 0428 735 238

Email: gppcprojects@grampianscommunityhealth.org.au

Facebook: <http://www.facebook.com/openthefrontgate/>



RESTORING FARM WOODLANDS FOR WILDLIFE

“Restoring Farm Woodlands for Wildlife” by David Lindenmayer, Damian Michael, Mason Crane and Emma Burns, 2018.

Published by CSIRO Publishing: Clayton South,

122 pages,

RRP \$39.99.



David Lindenmayer, Damian Michael, Mason Crane, Daniel Florance and Emma Burns

Perennial Pasture Systems

By Rob Shea, Coordinator, PPS

The Perennial Pasture Systems (PPS) farmer has had a busy spring following on from the successful 10th Annual Conference in September. PPS held a results session at Joel Joel in October for its Gibberellic Acid project which had been conducted in partnership with Agriculture Victoria and is part of the MLA EDPS program.

Following on closely was the Spring field day which attracted over fifty members to Amphitheatre Estate to look at blue gum plantation rehabilitation. A tour of Dog Rock Winery at Crowlands was also part of the day and sustainable viticulture was the theme of the visit organised by the PPS Girls & Grass group. A tasting of local produce and Dog Rock wines completed the day which was supported by Pyrenees Shire, Grampians Pyrenees PCP and Rural Bank

A dry season workshop was held at Joel Joel in early November with presenters Steve Cotton and Neil James giving out vital information to keep the sheep flock healthy and profitable through the long, dry period ahead. Forty members attended the session which was conducted in partnership with Agriculture Victoria and supported by Northern Grampians Shire, Project Platypus and the Wimmera CMA.

The year's extension activities ended with the annual end of year event, this time at "Overdale" Concongella. Fifty members attend the evening which was supported by Rabobank. An inspection of a new phalaris pasture was part of a farm tour. This new pasture is being managed in line with the findings from the PPS/MLA EDPS phalaris persistence project. An insightful health presentation by a friend of PPS on the topic of coping with chronic pain preceded a social BBQ on the lawn at Overdale.

PPS has also been busy doing pasture measurements for current projects and has received the go ahead for a new MLA PDS on integrated annual grass weed management. This will commence in 2019 and will be conducted in partnership with Agriculture Victoria.

For further information on the PPS group; contact Project Manager Rob Shea 0438 521357 yadin@netconnect.com.au



PPS members taking in the view from the top of the hill at "Overdale", Concongella. Photo: R. Shea

PPS—Girls and Grass

By Debbie Shea, Facilitator, Girls & Grass Advisory Group

The Perennial Pasture Systems (PPS) group recognises the importance of farmer health and well being in enabling farmers to make cohesive and informed management decisions. These decisions are often made jointly with partners and/or parents and/or siblings. This understanding has led PPS to be more inclusive to all members of the farm business and has resulted in the formation of Girls & Grass Advisory Group.

The Girls & Grass Advisory Group consists of Jane Thomas, Jodie Greene, Janine Curtis, Sue Maconachie and Bianca Kilpatrick. The group follows these key points:-

- PPS is inclusive to all members of the farming family.
- Women make essential contributions to our agricultural and rural economies.
- Girls & Grass AG want to build confidence, learn from peers and positively promote agriculture.

Rural Bank is a strong supporter of Perennial Pasture Systems and the Girls & Grass Advisory Group. Their contribution enables for a group facilitator to implement the ideas and events generated from the Advisory Group. These events are not always exclusive to women and may not be stand alone activities but value add to PPS annual program.

During 2018 the Advisory Group have:-

- held social discussion coffee mornings at different cafes in the region,
- hosted a Christmas in July ladies dinner, held at the Elmhurst Bush Nursing Centre with a workshop from Emily Anderson, (Executive Officer, Grampians Pyrenees Primary Care Partnership) looking at gender roles on farms.
- value added to the October Spring Field Day with a tour and wine tasting at Dog Rock Winery.
- sponsored the application of two local rural women for the National Rural Women's Coalition leadership course. One of which was successful, Malinda Watson was the only Victorian in a group of twelve rural women that participated in the three day course held at Canberra in late November.

Planning for 2019 is already underway. Further information on PPS Girls & Grass activities contact the facilitator - Debbie Shea, mobile: 0418 205353 or email: debbiejshea@gmail.com



Emily Anderson addressing PPS members and friends at the Christmas in July dinner. Photo supplied

Summer photo board



Clockwise from above:

Featherhead (*Ptilotus macrocephalus*) at Woorndoo Cemetery

Jack Tucker & Nick Petropoulos of "Wicked Wildlife" with a small Salt-water Crocodile at Maroona.

Wombat with admirers at Maroona

Ararat Landcare Group members at December dinner meeting

Keith Little with Volunteer Award won by the Ararat Landcare Group

A young naturalist gets up close to some "Wicked Wildlife" at Maroona

Banners demonstrating difference in flame height of native and introduced grasses. 8

All photos: Una Allender



Meanderings and reflections—weeds & pests

I was disgusted to find more fox carcasses dumped in the Hopkins River at the Burrumbeep Boundary Road Bridge. This latest find was reported to the authorities. There is no problem with fox shooting but dumping bodies in a waterway is not acceptable.

Water sampling was done prior to the most recent heavy rain. All waterways, most notably the Fiery Creek, were low though the Hopkins was running in places. I was fortunate to spot a very large tortoise swimming under the bridge on the Back Bolac Road.

Peter Forster has generously agreed to continue as a member of the **Victorian Gorse Task Force**. Please alert me to any issues with gorse so Peter or other relevant people (eg. VicRoads or Ararat Rural City for roadside gorse) can be kept informed.

The **Victorian Serrated Tussock Working Party (VSTWP)** is looking for someone from Western Victoria to join their committee. There are usually four meetings a year with some other community engagement. Some remuneration is available. If you are keen to keep Serrated Tussock at bay in our region and can spare some time please contact Ivan Carter, VSTWP Community Engagement Officer on 03 5366 0000 or look up www.serratedtussock.com

Water results : Upper Hopkins River, Upper Fiery Creek and Upper Mt Emu Creek catchments

EC levels for livestock water supplies. Value given in brackets for each type of livestock is the EC level at which production decline begins: Beef cattle (6,200 EC μ S/cm), lactating ewes and weaners (6,000 EC μ S/cm), dry sheep (9,300 EC μ S/cm), horses (6,200 EC μ S/cm), Pigs (3,100 EC μ S/cm), poultry 3,100 EC μ S/cm).

Stream	Road where site accessed	EC (μ S/cm) Dec 2018	EC (μ S/cm) Sept 2018	highest	lowest	average
Good Morning Bill Creek	Buninjon West Road	13740	7980	39000	300	11672
Hopkins River	Bridge on Labrador Road	7930	6320	11200	370	6181
Hopkins River	Robertsons Bridge (Langi Logan Rd)	6730	4300	13000	950	4864
Hopkins River	Tatyoan Road (sth Kangaroo Pt Rd)	6260	6900	13800	780	4701
Hopkins River	Burrumbeep Boundary Road	6260	7050	11700	330	5398
Hopkins River	Jacksons Creek Road	7510	8060	12100	340	6277
Hopkins River	Warrak Road (Hopkins River Road)	9980	8900	23280	490	9160
Hopkins River	Wickliffe- Glenelg Highway	10250	10600	19000	1590	11037
Hopkins River	Back Bolac Road	10370	8250	29600	1620	12307
Hopkins River	Delacombe Way (Edgarley Bridge)	9560	7540	17400	1790	10043
Hopkins River	Rossbridge (bridge)	8820	6900	13700	820	8390
Hopkins River	Old Geelong Road	10180	10670	16300	1000	8619
Hopkins River	Dobie Road	No sample	No sample	15900	160	5944
Hopkins River	Bald Hill Road ford	10320	7810	31800	3400	11497
Hopkins River	Helendoite Road	8060	5890	10800	390	5870
Challicum Creek	Porters Bridge Road	10560	9990	26680	145	11675
Fiery Creek	Porters Bridge Road	7040	3300	11930	550	5581
Fiery Creek	Mt William Rd (east Travellers Rest Rd)	3730	2840	5950	500	2273
Fiery Creek	Gordons Bridge Road	5410	3170	17560	530	5293
Fiery Creek	Runway Swamp Road	4590	4590	14520	860	5108
Fiery Creek	Streatham Reserve	6240	4880	11600	770	4344
Fiery Creek	McCrows Rd/Nerrin Nerrin Estate Rd	8760	5960	13770	780	7717
Fiery Creek	Lake Bolac	8720	7110	22280	850	8285
Lake Bolac	Fishermens Pontoon	8640	6880	53000	1410	11477
Middle Creek	Willowtree Road	872	415	3700	100	439
Trawalla Creek	Back Waterloo Rd, bridge	6080	3450	15300	400	2637

Stream	Road where site accessed	EC (µS/cm) Dec 2018	EC (µS/cm) Sept 2018	highest	lowest	average
Lake Buninjon	Maroona - Glenthompson Road	14000	10190	104000	880	17313
Green Hill Lake	Western Highway entrance	3480	2320	28800	340	6940
Captains Creek	Tatyoan North Road	Dry	Puddle only	3500	100	506
Jacksons Creek	Coopers Road	10220	9050	15900	770	8879
Tatyoan drainage line	Rockies Hill Road	13680	11040	26200	360	15448
Three Mile Creek	Warrayatkin Road	Dry	14120	22400	600	7738
Three Mile Creek	Warrak Road	Dry	875	13600	390	2549
Cemetery Creek	Warrak Road	400	9620	9100	130	887
Billy Billy Creek	Buangor	784	604	4400	200	671
Mt Emu Creek	Trawalla Bridge	5090	3730	6400	440	1820
Mt Emu Creek	Streatham-Carngham Road	Dry	5600	12200	130	2707
Mt Emu Creek	Mt Emu Settlement Road Bridge	7390	5850	11490	390	5250
Mt Emu Creek	Skipton pedestrian bridge	6430	5370	7900	440	4572

Clem Sturmfels DEDJTR Ararat - 5355 0535	Soil conservation, incentives and whole farm planning
Una Allender - 0419 891 920 uallender@bigpond.com	Facilitator - Upper Hopkins Land Management Group, Ararat Landcare Group
Glenelg Hopkins CMA — 5571 2526	Waterways, Wetlands, Works on Waterways Permits
Jack Tucker — 0427 547 636 or 5354 6277 Carole Mules - 0408 708 361 Celia Tucker — 0409 138 581 or 5354 6277	Chair, Upper Hopkins Land Management Group Secretary, Upper Hopkins Land Management Group Treasurer, Upper Hopkins Land Management Group
Deidre Andrews Ararat Rural City— 5355 0233	Ararat Rural City Council Waste and Sustainability Coordinator
Debbie Shea — 0418 205353	Glenelg Hopkins CMA Board; Facilitator, Girls & Grass Advisory Group, Perennial Pasture Systems
Adam Merrick — 0458 965 333 adam@tfn.org.au	Trust for Nature - Conservation agreements, grants, biodiversity technical advice
Jileena Cole — 0428 341 869 beyondbolac@outlook.com	Facilitator—Beyond Bolac Catchment Action Group (BBCAG)

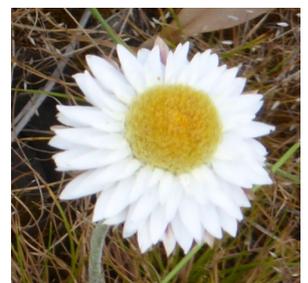
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