



# The Creek

Volume 28 No 3, Spring 2024

*Caring for our local environment*

## OUR ESO IS OFFICIAL

On Monday 26<sup>th</sup> August Council informed us that they had, that day, received a letter confirming that ‘Amendment C241morn’ – the **Environmental Significance Overlay** for our reserves – has been approved by the Minister for Planning.

In his letter to BERG President Eric Smalley, Christian Lynch, Principal Strategic Planner at the Shire, wrote: ‘This is a fantastic result and is recognition of the huge amount of work put in by BERG and other stakeholders throughout the entire process – from the inception of the project [in 2017], right through to the drafting of the Ecological and Planning Study and the preparation of Amendment C241morn... Congratulations to you and the BERG community, this is a tremendous outcome which will ensure the further protection for the Balcombe Estuary going forward’.

The ESO provides for the Reserves the highest level of protection from potential planning changes by future governments.

## WORKING WITH SCHOOLS

August saw visits from two schools, to learn about and help with BERG MM’s work. First came a dozen Balcombe Grammar Environmental Studies students, then a fortnight later, about thirty Year 10 Outdoor Education students from Mt Eliza Secondary College.

Both groups spent half their morning planting trees, shrubs and sedges in the open revegetation area of the Rabbit Paddock. The other half of the morning they spent learning about our WaterWatch program and identifying macroinvertebrates in samples of creek water under the guidance of veteran BERG WaterWatcher and retired teacher John Inchley.

Dean Patton, the inspiring Outdoor Education teacher with the Mt Eliza kids, sent us ‘a massive thank you’ and wrote that ‘Many students said that the tree planting and water activity was the highlight of their day’.



## Save the Date

Hear renowned naturalist

**Leon**

**Costermans**

following the 2024 BERG

**ANNUAL GENERAL**

**MEETING**

**SATURDAY 26<sup>TH</sup> OCTOBER**

**Mt Martha House (Room 5)**

**9.30 am**

Naturalist, conservation leader author, teacher, and much more, Leon Costermans has a vast knowledge of the native plants and the geology of south eastern Australia, and in particular his home territory, the Mornington Peninsula..

Leon will speak on the varied geology of Mt Martha and the Peninsula, which is reflected in the landforms, soils and flora

His recently published book *Stories beneath our feet: exploring the geology and landscapes of Victoria and surrounds*, will be available for sale on the day (cash only).

LEFT: Students from (top) Balcombe Grammar and (below) Mt Eliza Secondary College planting in the Rabbit Paddock, where a swathe of new plantings is transforming this bare patch Photos Liz Barraclough & Angela Kirsner

**Thank you!**

**Mt Martha Community Bank  
Sponsors of *The Creek* 2024**

Mount Martha  
Community Bank® Branch





## CELEBRATING CATE CLARKE

*Vibrant, generous and hard working BERGer Cate Clarke died on 27<sup>th</sup> July.*

**By Suzanne Ryan**

Cate was a delightful, warm-hearted woman. An integral part of the BERG Mt Martha Coastal Team, Cate was an enthusiastic and generous contributor of her time and her considerable expertise to our coastal projects.

Remarkably organised and detailed, Cate leaves behind a legacy of work. Over the last ten years that she focused on the Mt Martha foreshore, she not only did regeneration works, woody weeding and planting, but she also aided in winning numerous grants, brain-storming grant projects and editing final submissions.

Among her many projects, she co-designed the temporary vegetation buffer panels protecting our Mt Martha Coastal Banksia Woodland. She researched, mapped and wrote a paper on the effects of the invasive hybrid Pigface on our indigenous Karkalla, focusing particularly on ways to distinguish between the species.



*Cate with a barrow-load of self-seeded Banksias from a tree in her garden, which she nurtured & potted up for planting along the foreshore last year*  
Photo Suzanne Ryan

Cate also participated in the Port Phillip Bay Eco Centres coastal group's grant work, in Coastcare

workshops and conferences, and in seashell counts and intertidal sand measurements.

Indeed, there was not a coastal project, event or workshop in which Cate was not a contributor. The science of a project always captured her imagination and heart.

Cate and I completed the SPIFFA Habitat Management Course together – 13 weeks of classes and Saturdays exploring from Arthurs Seat State Park to the Peninsula's tip. The course was one of Cate's highlights, along with our Cultural Heritage Training. Both captured her interest and led to further research and ideas, which she utilised in projects and ongoing works.

A guiding hand, always ready to listen, advise and support, Cate leaves behind memories of friendship, laughter and kindness.

Cate, we will miss you very much – including your delicious cakes!

## BLUEPRINT TO REPAIR AUSTRALIA'S LANDSCAPES

*Reprinted from the FriendsNET newsletter, 29 July 2024*

The Wentworth Group of Concerned Scientists has published a plan to repair Australia's landscapes that sets out a 30 year plan estimated to cost around \$7 billion a year. The report has been prepared by the group together with experts from academia, business and government.

The report argues that 'It is possible to restore nearly all of Australia's degraded terrestrial ecosystems to 30% of their pre-1750s extent in healthy condition and maintain and even increase current agricultural production if we address environmental degradation and rebuild and prioritise productivity in agricultural landscapes.'

To put this investment of \$7 billion a year in context, the Australian Government has committed to spend \$58 billion over the next decade to arm Australia with nuclear powered

submarines. See this Guardian [article](#) which compared various budget commitments over the next decade. A great deal of that expenditure will be spent overseas in the submarine shipyards in England and the US. Another way of comparing the proposed investment of \$7 billion a year is to look at the cost to the budget of measures such as the capital gains discount on housing which costs \$15.5 billion a year. See the analysis by Greg Jericho in the Guardian [here](#).

Many commentators highlight how budgets are choices made by our governments. Money spent on environmental improvements and protection are usually characterised only in cost terms and not as an investment with long term benefits. The report by the Wentworth Group seeks to change perspectives and is well worth a read.

You can read about the report on their [website](#) and download the 23pp Synthesis Report [here](#) and the full report [here](#).

## FLOODED



*Boardwalk and Campground were underwater after the wild weather of 3-4 September*  
Photos Kathy Smalley





# SPRING IS YELLOW!



There's so much in flower in the Maude St reserves! Clockwise from top left:  
 Small-leaved Clematis *Clematis microphylla*;  
 Common Heath *Epacris impressa*;  
 Common Correa *Correa reflexa*;  
 Coast Wattle *Acacia longifolia*;  
 Guinea Flower *Hibbertia scandens*  
 Silver Banksia *Banksia marginata*;  
 Showy Bossiaea *Bossiaea cinerea*



Below left: The handsome mobile home of a Case Moth, species not identified, on a *Juncus* sp among the new Rabbit Paddock plantings, its case decorated with the reeds.  
 Below right: Sun shining through Prickly Moses *Acacia verticillata* at the end of Hilton Court Photos Angela Kirsner





By Byron Lamont, Distinguished Professor Emeritus in Plant Ecology, Curtin University; Lynne Milne, Curtin University; Richard Cowling, Professor, Nelson Mandela University; and Tianhua He, Senior lecturer, Murdoch University

This article was published in *The Conversation*, 29 January 2024

Few plants conjure up the Australian bush better than banksias, whose beautiful flowers are irresistible to honeyeater birds, small marsupials and nature lovers. But [our research](#) shows that the ancestors of banksias migrated here from North Africa.

From [early fossil pollen studies](#), we knew that the protea family (Proteaceae), which in Australia includes banksias, grevilleas, macadamias and waratahs, originated in northwest Africa 130 million years ago.

Our task was to track their migration to Australia, where they became the unique symbols of the Australian bush that we admire today. To give credit where it's due, we need to know where our natural heritage originated. So, how did this iconic group of plants get here?

### Looking at the entire family

Our study relied on two approaches. We used a DNA assessment of the entire protea family to create an evolutionary tree. Then we inserted key fossil pollen records of a known age into the tree, to serve as a 'molecular clock'. This helped us work out the time of origin of all genera in this family.

We then searched the literature for records of ancient sedimentary deposits that contain fossil pollen with affinities to banksias in Africa, South America, Antarctica (which was covered in forest until 40 million years ago) and Australia. The [hard walls of pollen grains](#) allow them to be preserved for millions of years, and the pollen grains of plants in the protea family are [quite distinctive](#) from those of other families. We then compared the dates and locations of the fossil pollen against our family tree.

This showed that by 120 million years ago, the ancestors of banksias had begun crossing into northeast

## BANKSIAS

### ICONIC AUSTRALIAN PLANTS, BUT THEIR ANCESTORS CAME FROM NORTH AFRICA

South America. The two continents remained joined at their tips until 100 million years ago. The plants then migrated down the east side of South America, – first reaching the Scotia Isthmus about 110 million years ago – and crossed onto the Antarctic Peninsula.

### Two routes into Australia

Here, the ancestors separated into two groups.

The soft-leaved group followed a cool-temperate rainforest pathway (dark for up to four months of the year) along the south side of Antarctica and entered Australia via Tasmania from 105 million years ago. The rainforest elements continued up the east coast, some eventually reaching New Guinea; [others entered New Caledonian rainforests](#) directly from southern Antarctica. This route remained open until 45 million years ago, when Australia and Antarctica finally separated.

The hard-leaved group followed an open, fire-prone woodland pathway along the warmer, sunnier northern side of Antarctica. They entered Australia via the southwest tip that remained attached to Antarctica until about 70 million years ago.

The two points of entry were separated by a huge inland sea that occupied the Great Australian Bight during that period.

### A proliferation of banksias

Since banksia itself appears to have arisen 100 million years ago, the genus either evolved in northeast Antarctica or at the extreme corner of southwestern Australia. From there, they spread to the rest of Australia over the next 50 million years.

Banksias now comprise [around 200 species](#), 90% of them endemic to south-western Australia. Ancestors of the bulk of the hard-leaved genera (eg grevilleas, hakeas, macadamias, waratahs) also

entered Australia via the south-western tip, then migrated east along the margins of the Nullarbor Plain – thickly vegetated

back then – to southeast Australia.

Until the results of our new study, it was believed the protea family arose in Australia and spread from here to Africa, South America, New Caledonia and Asia. Almost all migration would have needed to be over the oceans, as it was thought to have happened after the breakup of the Gondwanan supercontinent.

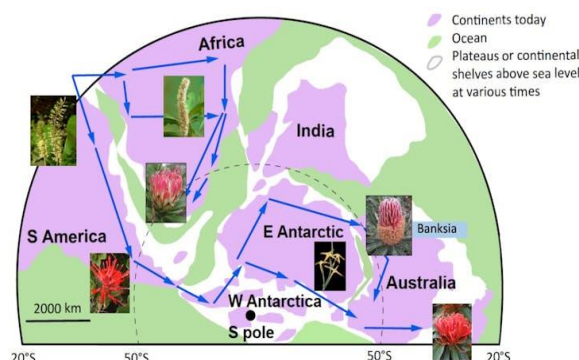
In fact, the journey was entirely overland, as it occurred when Gondwana was largely intact, except for the early departure of Greater India.

### Plants out of Africa

Anthropologists are keen to point to the '[out of Africa](#)' hypothesis for the origin and [migratory history of humans](#). It now appears such a hypothesis is equally applicable to some important groups of plants.

This is the first time the southwest corner of Australia has been recognised as a major migratory route for the protea family.

We now need to take seriously the Antarctic–southwest Australian link as a likely major entry route for many other hard-leaved plant groups into Australia. They could have originated in Antarctica and South America, and possibly even Africa. This north Antarctic pathway might well also apply to eucalypts, whose oldest records are for southern South America, as well as currently endemic animals and microbes.



*Migratory pathway taken by the ancestors of banksias beginning 132 million years ago in north Africa. Note how the ancestors split into two groups on entering Antarctica from South America, banksia itself entering via southwest Australia and the rainforest species via Tasmania. Modified from Lamont et al. (2024) Perspectives in Plant*

## THANKS TO OUR BUSINESS PARTNERS

### FEATURING MT MARTHA COMMUNITY BANK

A big thank you to Mt Martha Community Bank (Bendigo Bank) for their \$2,500 sponsorship of BERG Mt Martha's Tool & Equipment program.

The donation has helped BERG to replace equipment stolen last October, and to upgrade equipment no longer fit for purpose – notably our new waders and aquatic net equipment, modelled with panache by Eric Smalley – see photo. This means we can continue our macro-invertebrates monitoring, an important measure of waterway health, and most popular in our schools program.

The Bank has also been funding printing of *The Creek* for a number of years.

Our Community Bank gives up to 80% of profits back to the

community via the Mt Martha Stronger Community Grant Program. The aim is to develop long-term prosperity by supporting programs that help empower individuals and groups within the local community.



### OUR FABULOUS DONORS – FEATURING BRONWYN STREET

In 2016 Bronwyn and David Street committed \$10,000, and another \$5000 in 2018, to match other donations to BERG MM dollar for dollar. BERGers rose to the challenge!

Since David's death in 2020, Bronwyn has donated \$5000 every year. This is partly, she says, in memory of David, who so loved the reserves and working in them as a dedicated Friday grouper. And partly because she too loves the reserves, looks out on them every day from her home in Maude St, and very much values their conservation. Like David, Bronwyn grew up in Mt Martha, and she was on the BERG committee for some years.

These generous donations have been a huge contribution to BERG MM's work, notably in the Maude St reserves, but also in supporting our Flora and Fauna Surveys, signage, on-ground tools, and training for BERGers.

Thanks Bron!!



*A recent photo of Bronwyn Street on holiday in Iceland*

BERG MM's new video ***Why Did I Volunteer,*** made for us by South East Water and featuring three BERGers, Jeanette Miller, Kathy Smalley, and Sean Callender, is now on the home page of the BERG Mt Martha website.

- Bells Gourmet Meats
- Bendigo Bank Mount Martha
- Boomerang Bags Mount Martha
- Bunnings Mornington
- Complete Colour
- Complete Step Podiatry & Footwear Specialists
- Danckert Real Estate
- Etch Sparkling
- Helloworld Travel Mount Martha
- Mornington Peninsula Gardening
- Mount Martha Chiropractic & Sports Injury Clinic
- Mount Martha Primary School
- Mount Martha Veterinary Clinic
- Mount Martha Village Clinic
- Mount Martha Yacht Club
- Proscape Landscaping
- Regeneration Projects
- Ritchies IGA
- Rotary Club of Mount Martha
- Sea Side Shacks
- Volpino
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### MT MARTHA BIOLINKS ALLIANCE

We reported in the Winter edition of *The Creek* on the first meeting, in May, of a potentially very effective alliance between seven Mt Martha environmental and friends groups, initiated and led by Councillor Despi O'Connor. At its second meeting, in August, the group settled on a name: **Mt Martha Biolinks Alliance.**

The meeting discussed further how we can work together and support each other to protect and restore Mt Martha's bushland, reserves, roadsides and streetscapes, and promote local 'greening'.

The dynamic group brings representatives of all Mt Martha's environmental groups: Sunshine Reserve, Fairburn Reserve, Mt Martha Park, Hearn Creek, plus a number of individuals. Liz Barraclough and Angela Kirsner represented BERG at this meeting. There are many exciting ideas under discussion. Watch this space for developments!



**FIELD NEWS**

*Field Officer Liz Barraclough reports*

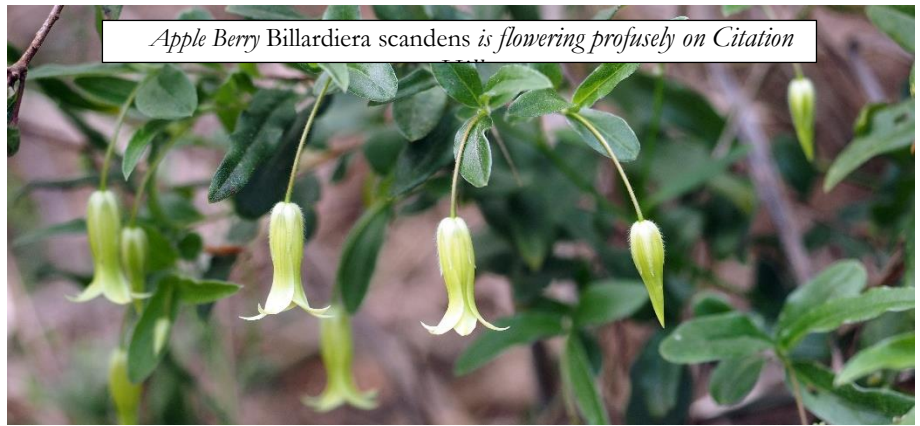
Most of the weekly Friday working bees over winter have been on **Citation Hill**, where work under our Victorian Landcare grant is continuing to transform the area. Naturelinks has drilled and filled and chain-sawed Pines and Pittosporum, and the Friday groupers have lugged them out to form an impressive pile to be chipped. We have pulled lots of small weedy Polygala and Pine, and Naturelinks has sprayed large Bridal creeper infestations.

Then we planted. We have put in a swag of over-storey plants – Manna Gums, Black Wattle, Sheokes (both Black and Drooping), Sweet Bursaria – plus an understorey of shrubs, sedges and grasses. And as we move into spring, the area is a sea of the delicate indigenous scrambler, Apple Berry *Billardiera scandens*.

**More on Fridays**

The **Old Campground** is looking good after all the weeding and planting by the Friday group and Naturelinks. This includes some larger indigenous trees that, in time, will provide shade and habitat and eventually, we hope, nesting hollows.

We also spent time in the Rabbit Paddock, weeding round thriving plantings and removing guards and stakes around those that didn't make it, ahead of two visiting school groups planting here (see article Page 1).



*Apple Berry Billardiera scandens is flowering profusely on Citation*

**Naturelinks has also...**

...removed Winter cherry, Tree Tobacco and Blackberry, sprayed Bridal Creeper between Augusta St and the Pistol Club, and worked in the Maude St area of the reserves, under our Biolinks Grant, to remove Sallow Wattles, small Pittosporums and Wonga Vine

...and weeded along the board walk at the end of Latrobe Dr – all those tenacious and persistent ground-flora weeds and scramblers including Bridal creeper, Tradescantia, English Ivy, Fumaria, Spear Thistle, Gladiolus sp, grassy weeds and Arum Lily.

Pia Spreen, who leads our Naturelinks crew, writes: 'This area has improved so much and we have got the Tradescantia under control with regular follow up visits'. But of concern, they found small amounts of Orange Pore Fungus (*Favelascia claudocus*) in a number of areas (see photo). 'This is a red flag,' said Pia,



'listed as an invasive species, it's one to keep our eye on.'

This handsome little intruder, a wood decomposing fungus, was first noticed in Australia in 2004, in Melbourne; now thousands of records of it on iNaturalist show it to be widespread. Alison Pouliot, at the fungi workshops she conducted for BERG, told us that the concern is that the mycelium, in rotting wood, secretes an antifungal, though it is thought to be quite weak

so hopefully the species can cohabitate with other fungi.

**Along the coast**

The Coastal Group has been laying mesh and planting out behind the newly installed and old fences on the beach, plus other plantings higher up in the dunes. They have also continued their ongoing removal of woody weeds, across an area stretching from south beach to just past Alice Street.



*The Friday Group preparing the Rabbit Paddock for planting by school groups: Jeanette Miller with stakes; Verona Rawson modelling her to-die-for new working bee jacket! And morning tea: Jock MacMillan, Liz Barraclough, Jeanette Miller, Verona Rawson, Terry Moar, Kathy Smalley Photos Angela Kirsner*





Planting out the bank at a Sunday working bee – Clockwise round the group:  
Liz Barraclough, Eric Smalley, Indra Kurzeme, Sue Betheras, Barb Thraves, Roo Rawlins



### Fishing

It's good to see that the work undertaken by BERG and the Shire's Natural Systems Team to deter fishing from *ad hoc* trampled tracks seems to be largely successful.

At Friday and Sunday working bees, we have planted out all the trampled areas, staking and guarding the plants. The Shire has installed wooden handrails along the boardwalk in areas where access had been most damaging, with 'area under regeneration' signs directing people to the fishing platforms. And on the fishing platforms, they have placed signs promoting the VFA's Recreational Fishing Guide, which includes information on permitted fish size, bag limits and equipment, and fishing licences.

The revegetated areas are looking great!

### And more...

Sunday working bees have tackled a stack of weeds below Hilton Court and below Kotor Place (lower Hopetoun Creek) – woody weeds, scramblers, Forget Me Nots, Arum Lilies and more.

After Naturelinks had finished its weed control work below Maude St, under our **Biolinks Support Grant**, Eric Smalley and I planted 60 trees and shrubs in the almost inaccessible areas of fallen and cut woody weeds and dense Bracken, and the Friday Group put in lots more at our first Spring working bee.

### Walk for Koalas

The Uniting Churches of Port Phillip region and Mornington Peninsula Koala Conservation hosted a 'Walk for a Cause' day, on Saturday 31<sup>st</sup> August. To kick off the day, a brief presentation from BERG was requested, so Liz Barraclough was at Mt Martha Uniting Church at 7.30am to oblige, before the small group (the weather was bleak!) set off for The Briars to help at a tree-planting event.

## WHAT DOES STORMWATER CARRY INTO THE BAY?

*Geoff Pritchard reports*

Last year Liz Barraclough was approached by Dr Wei Wen Wong, Research Fellow in the School of Chemistry at Monash University. Would BERG help in her group's research into the contribution of stormwater to water quality in Port Phillip Bay?

This was a project for the EstuaryWatch team, which I now lead, helped by Ian Horton, after Bruce Ferres stepped down. We salute Bruce's huge contribution over many years.

### A focus on nitrogen

Wei Wen Wong's team is focusing particularly on nitrogen pollution. While nitrogen is essential to living organisms, too much in water bodies causes algal bloom, drift algae and other environmental problems. It can be a serious threat to marine ecosystems.

BERG is one of 15 volunteer groups around Port Phillip, from Werribee to Rosebud, collecting water samples for the project from river mouths and stormwater drains, and monitoring flow. With a budget of nearly \$100k, supported by the Victorian Government, the project expands to the whole bay an earlier study of the western side only.

The researchers analyse the water samples for nitrogen concentrations, for isotopes, and for organic contaminant such as pharmaceuticals, personal care products, and pesticides. Isotopes, the main focus, are useful for identifying the origin of nitrogen in stormwater (eg sewage, fertilizer, atmospheric deposition) and apportioning the contribution of each source.

### Collecting our stormwater

My main collection point is the Balcombe Estuary, at the Campground jetty, while Suzanne Ryan and Jaime Wallis are sampling Hearne Creek, which enters the bay via a drain at South Beach.

We take three samples every couple of weeks, which I then freeze for collection by Monash. I also photograph the Balcombe Creek berm to monitor opening. It was closed for many months earlier in the year, not opening until mid July.

We had a relevant occurrence in early June when a sewer pipe failure sent sewage into Balcombe Creek. South East Water urgently addressed the spill and, as reported in the last newsletter, pollutants dissipated over a week and were very dilute at the mouth.

### Getting back to our regular testing

Running for six to eight months and scheduled for completion by February 2025, the Monash project fits in well for us while our regular EstuaryWatch sampling and testing has had to remain on hold after our equipment was stolen from the BERG storeroom late last year.

It has been a long wait but finally we have been promised our replacement sampling equipment in late August.

**BERG Mt Martha welcomes  
new member Annie Neil**

## PLANTING AT THE BRIARS

*Eric Smalley*


Several BERG members have taken part in the community tree planting days at The Briars held during July and August.

The Briars has a goal of planting 10,000 trees within the new Sanctuary expansion area.

BERG was there. A sodden David Chalmers (pictured) braved a wet and miserable day along with Eric Smalley and Liz Barraclough to plant over 130 trees.

Under The Briars masterplan, the Wildlife Sanctuary is being extended by an additional 40 hectares to the south-east, and the new area is being re-vegetated.



Come along to our <b>Bushland Activities</b>	Join us at <b>WaterWatch &amp; EstuaryWatch</b>	<b>Other Local Groups</b>
<p>❖ <b>2<sup>nd</sup> Sunday of the month:</b> between 9.30am &amp; noon. Details emailed a few days ahead, or call Eric Smalley 0403 863 616.</p> <p>❖ <b>Coast Group:</b> fortnightly on Wednesdays, between 9.30am &amp; noon. Call Suzanne Ryan 0418 387 604. Details emailed a few days ahead.</p> <p>❖ <b>Friday Group:</b> weekly between 9.30am &amp; noon. Call Liz Barraclough 0408 388 430. Details emailed a few days ahead.</p>	<p><b>First Sunday of each month:</b></p> <p>❖ <b>WaterWatch testing:</b> meet 9.15am at Uralla Rd bridge. Enquiries to Franc Amendola 0433 626 007 or Sue Milton 0407 350 175.</p> <p>❖ <b>EstuaryWatch testing:</b> meet 9.00am at the Rotunda. Enquiries to Geoff Pritchard 0438 638 600.</p>	<p>❖ <b>BirdLife Mornington Peninsula</b> bird-watching 2<sup>nd</sup> Wednesday and 3<sup>rd</sup> Sunday. Enquiries to Max Burrows mornington@birdlife.org.au or 0429 947 893, or visit <a href="http://www.birdlife.org.au/locations/birdlif-e-mornington-peninsula">www.birdlife.org.au/locations/birdlif-e-mornington-peninsula</a>.</p> <p>❖ <b>Sunshine Reserve</b> working bee 9.30am, last Sunday of month. Call Pia Spreen 0437 299 847.</p>
<p><b>BERG MT MARTHA PATRON:</b> TERRY DENTON</p> <p><b>COMMITTEE:</b> • PRESIDENT ERIC SMALLEY • VICE PRESIDENT (POSITION VACANT) • SECRETARY KATHY SMALLEY</p> <p>• TREASURER SUE MILTON • FIELD OFFICER LIZ BARRACLUGH • NEWSLETTER ANGELA KIRSNER • MEMBERSHIP CHERYL WILKINSON</p> <p>• PETER MCMAHON • MARION ORCHISON • IAN HORTON • TERRY MOAR • GEOFF PRITCHARD</p>		
<p><b>Balcombe Estuary Reserves Group Mt Martha Inc. No. A0034645Y ABN 50 224 628 623</b></p> <p><b>Mail:</b> PO Box 433 Mt Martha 3934 <b>Email:</b> <a href="mailto:info@berg.org.au">info@berg.org.au</a> <b>Mob:</b> 0427 433 585 <b>Web:</b> <a href="http://www.berg.org.au">www.berg.org.au</a></p>		

### THE CREEK

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