

HOPETOUN RESERVE A BIODIVERSITY HOTSPOT

It's taken a couple of years, with COVID and more, but we are excited by the results of the newly completed Flora Survey of Hopetoun Reserve.

This long, narrow reserve turns out to be a treasure trove of biodiversity cutting through suburban Mount Martha. Katherine Smedley, who carried out the survey for BERG MM with Gidja Walker (both of Sundew Ecological Services) describes it as 'a real gem of a reserve'.

To quote the Survey report:

'Whilst Hopetoun Reserve is a smaller bushland reserve, the findings of this project are that it has VERY high ecological values due to the large diversity of Ecological Vegetation Classes (EVCs) present, the moderate to high ecological condition of each of these vegetation types, and the diversity of flora species that were recorded within the reserve. The results of the project indicate that Hopetoun Reserve is a flora/vegetation biodiversity hotspot within Mount Martha.'



Tree-fern growing in EVC 53: Swamp Scrub within Hopetoun Reserve
Photo: Sundew Ecological Services

MAGPIE RESCUE!

By Eric Smalley

A few weeks ago I found two fledgling Magpies lying beneath one of our large gum trees, fallen through a hole in their nest some 15 metres up the tree.

Both were alive, the younger one's eyes yet to open, its feathers just forming, the other looking about a week older.



What to do? I rang Wildlife Victoria. Grab a plastic ice cream container, they suggested. Drill holes for drainage, build

a nest in it of soft foliage and secure it with cable ties well off the ground and as close as possible to the nesting tree.

Luckily we have a tea tree growing by the gum tree which did the job, and by next morning both parents were again looking after the fledglings. Sadly the younger died a few days later and was cast from the nest.

'Lucky' (so named for obvious reasons) has now fled his Bulla ice cream nest and I hear him giving his parents a hard time over the fence. I was happy to get my ladder back



after two weeks – the parents had appropriated it for a perch!

Nobody I have told this tale to had thought of such a rescue option. Bear it in mind if you find fledglings that need help.

ECHIDNA

It's always great to have confirmation that we still have an Echidna population. Jenny Selby snapped this one in November in the Maude Street nature strip.



Thank you!
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FOSSIL BEACH

After the BERG Mt Martha AGM on 26th October, our speaker Ian Stevenson, convenor of the Fossil Beach Interest Group, took us on a journey through the history and significance of this fascinating site.

Situated on the boundary between Mornington and Mt Martha, Fossil Beach was named in the 19th century for its wealth of fossils. Marine creatures from the Miocene period, 15 million years ago, are preserved in its grey clays, known as Balcombe Clays or Gellibrand Marls.

There are shells, molluscs, bivalves, sharks' teeth, otoliths, sea urchins, and whalebone remnants. Some 271 species have been identified. A third of them are now extinct, another third occur now only in Australia's warm waters, and a third still have relatives locally.

Cultural layers

But the fossils are only one element in the layers of history here. Shell middens on the headlands bespeak millennia of Aboriginal presence.

In 1802, Flinders anchored *Investigator* near the Heads and in a smaller boat, reached 'Shag Rock' (now Bird Rock), Schnapper Point, then Indented Head. In the 1860s, Victoria's first cement works was here, its ruins still evident.

A geological text book

The strata of the Fossil Beach cliffs, sheared by seismic activity along Selwyn's Fault, show a geological time line with unusual clarity.

The most recent, at five million years old, is the Baxter Sandstone Red Rock (seen also at Red Bluff Black Rock and Schnapper Point). Next, at 10 million years, are Marina Sands (named after Marina Cove). At

15 million years sits the fossil-rich Balcombe Clay. Older still are the Harmon Sands (20 million years), Lignite (coal, 30 million years) and older volcanics, from 40-50 million years ago.

Cement works 1862-64

In 1854 Government geologist Alfred Selwyn reported on the limestone nodules called septaria at Fossil Beach. They could, it was thought, be used to make cement that would set under water – a step up from the soluble lime mortars made round Melbourne and Nepean Peninsula at the time.

The Patent Septaria Cement Company optimistically opened here in 1862, with two kilns, a steam engine, a jetty, a washmill and various tanks and sheds. But they'd failed to investigate properly the properties of the septaria, which proved not commercially viable, and the company folded in 1864.

Visit Fossil Beach and you can still see the ghost of the wash mill, the kilns, the settling ponds. As a romantic ruin, it features in various art works, including an 1872 painting by Rosamund Scott in the Mornington Peninsula Regional Gallery.

Post-cement works

The Foreshore Reserve was created in the late 1800s, and Fossil Beach was a local tourist venue from at least 1919, a popular picnic spot for day visitors who came by horse and cart, or later by car. It was a regular camp for Scouts and Guides in the 1930s. It has also been the site for military manoeuvres, training camps, even simulated gas attacks!



Top to bottom: Fossil Beach cliffs showing the strata; the grey Balcombe clays; and a fossil shell embedded in Balcombe clay

What now?

In the late 1960s historian William Culican and local architect John Taylor worked with volunteers to expose and conserve the cement works ruins. Then in 2011 the Shire commissioned the *Fossil Beach Cement Works Heritage Study* (available online), a historical overview with recommendations on management.

The focus is on preventing further degradation and bringing the community on board to understand the site's State historic and scientific importance, so the whole site, including fossil beds, is preserved for future generations to enjoy. A new interpretive sign is now in place, with QR code links to audio-visual information and drone footage.

The Fossil Beach Interest Group grew out of the heritage study and has an important role to play in keeping the local population involved, and in sharing information about the site. The group works with Naturelinks to maintain the bushland and they also run site excursions for those interested. For more information visit the Shire's website, www.mornpen.vic.gov.au/Activities/Parks-Reserves/Fossil-Beach

In attempts to protect the site, a basalt sea wall was built in 1964 and a granite wall in 1990.



Fossils from Fossil Beach: Left: Coral (Flabellum), Right: Columbarium shells (Whelks) – both extinct

BMX JUMPS PILOT

Makeshift BMX jumps in our reserves and sensitive environments across the Peninsula have become a growing challenge.

In search of a solution, the Shire set up a pilot program of dirt jumps at Citation Reserve, running for six weeks from 30th October. Input to their draft 'Recreational Facilities for Mountain Bike and BMX Strategy' showed a need for:

- dirt jumps built by young people in authorised and appropriate spots
- signage with codes of conduct and parameters for building the jumps
- recreational bike park facilities catering for a range of abilities.

The Shire is working with @leisure Planners, Cycling Australia and local trail builders from Trailscapes to create a space where young people can be creative and showcase their dirt jump building skills, without destroying bushland.

The trail builders are mentoring teams of young builders on how to build safe jumps, and ensure the natural environment is protected. Feedback from the pilot will inform the final *Recreational Facilities for Mountain Bike and BMX Strategy*.



The jumps (above) and some of the signage (below) Photos Angela Kirsner



NEW COMMITTEE

Following the BERG Mt Martha AGM on 22nd October, we welcome Eric Smalley as our new President, stepping up from the role of Vice President; and Kath Smalley to take on the exacting task of Secretary. We are delighted to have this brother and sister team on board!

Also elected unopposed were Julie Zammitt, Treasurer, and committee members Peter McMahon, Liz Barraclough (our indomitable Field Officer), Marion Orchison and Angela Kirsner. And we are delighted that Sue Milton, who stood down at the AGM, was later persuaded to return to the Committee. She has been duly re-coopted.

**The position of Vice President remains vacant.
Might this be your role??**



Above: Committee members following the AGM: Eric Smalley, President; Kath Smalley, Secretary; Liz Barraclough, Field Officer; Marion Orchison, and Peter McMahon (AGM apology Angela Kirsner, newsletter)

Below: Peter McMahon, past President, thanking Di Lewis, retiring Secretary

Photos David Barraclough



THANKS!

From Eric Smalley

As incoming President of BERG MM, I want to reiterate outgoing President Peter McMahon's thanks at our AGM to our retiring members committee:

- **Di Lewis**, BERG MM secretary since 2012, has given both the committee and BERG MM as a whole exceptional administrative support in the most professional manner. Fittingly, Di was awarded life membership at the AGM.
- **Bruce Ferres**, a past Vice-President, is leader of our highly successful Citizen Science team, providing a most professional approach. Bruce will continue as EstuaryWatch Co-ordinator.
- **Fran Amendola**, though retired from the committee, will continue to provide technical support and knowledge to our Waterwatch Program.

I also want to acknowledge and thank **Peter McMahon** for his tireless and steady leadership as President throughout the challenges of the last three years. We look forward to continuing to draw on Peter's expertise as an ongoing committee member.



Incoming President Eric Smalley (right) thanked outgoing President Peter McMahon (left) and set him up for the summer with a sample pack of Mornington Peninsula gins at the December committee meeting.

Photo Angela Kirsner

BERG Mt Martha welcomes new members Maryann Harmer, Michael Chan & family, Peter O'Keefe & family

ESTUARYWATCH

Bruce Ferres reports

October and November have been the wettest on record. Storm water poured into the creek and bay, keeping the creek mouth mostly open. It's clear we are seeing climate change at work.

Onshore winds in early November forced bay water over the berm and caused minor flooding. South westerly winds and long-shore currents then shaped the longest northerly sand spit seen in years, with the creek meandering ever further northwards until, by a week into December, it had passed the first half dozen or so North Beach boat sheds.

Record rainfall

Our extraordinary rainfall has foiled efforts to slow the rate of sediment build-up in the estuary. Short, heavy downpours have gouged gullies through tracks and gravel roads. Indeed, massive erosion of unsealed roads, with the increasing frequency of heavy rain and flash flooding, continue to be a major contributor to the estuary's sediment load.

JOIN THE ESTUARYWATCH TEAM!

We carry out observations and measurements once a month, at three test sites: campground jetty, fishing platform near Ferrero Oval, and August Street footbridge.

Just a couple of hours a month, no expertise required.

Join us one day and see how it is done! You will be made very welcome.

Please contact Bruce Ferres on 0435 389 804.

Heavy falls in late October saw sediment-laden overflow into the creek. Then on the night of Sunday 13th November some 70mm of rain fell in the Balcombe Creek catchment in less than an hour, according to a local rain gauge – more than the expected rainfall for the entire month. A raging torrent down the creek flooded the riparian zone and burst through the entrance sand spit to form a vastly wide mouth.

The rush of water also washed away the salt wedge. Multi-meter

readings at the campground jetty on 15th November showed entirely storm water in the estuary basin. The lower salty layer – the salt wedge – had been flushed out. This may have significant effects on the estuary's aquatic life. With the entrance largely open since then, the water flow should, we hope, be enabling the salt wedge to gradually re-establish.

South East Water notified us of sewage spills, as their assets had been inundated. The creek was brown and we measured turbidity at <80 NTU, the worst in a decade.

Our planned meeting with SE Water to discuss the September spill and its impact on the reserves was postponed until they could get on top of this latest crisis. It will take place in mid December.

Monitoring station

South East Water has withdrawn its financial support for the 24-hour monitoring station in the estuary due to the unreliability of the ammonia sensor and further development of sewage spill detection methods. We applied to Melbourne Water for funds, but this was unsuccessful. Bio2Lab Pty Ltd has therefore had



Clockwise from top left: Brown, turbid water after the sewage spill 13 November; Very long opening to sea; Eroded gravel track near the start of the boardwalk, 3 November (photos Bruce Ferres); Kids surfing across the vastly wide opening to sea, 15th November (Photo Angela Kirsner)

to dismantle the station. We will continue to look and hope for other funding options.

Henley Avenue baffle pit

Final approval for this is expected from Melbourne Water by the end of January. Work should start in February and take about six weeks.

MW is providing some of the funding, with the Shire providing the rest. The expected total cost, including ten years of maintenance (removing captured sediments), is over \$500,000. It is sorely needed: the current small standard pit at the end of Henley Ave was overwhelmed by the November rains.

Sediment Pin

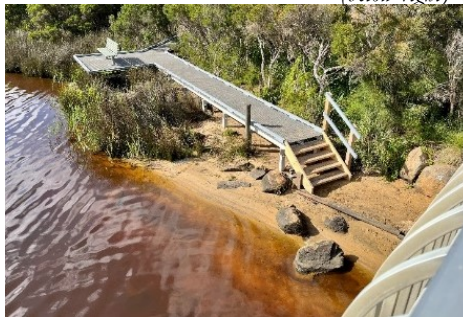
The long berm seems to have slowed water flow from estuary basin to bay, decreasing low-tide exposure of the mud flats and so limiting feeding time of wading birds. It has also stopped us examining the BERG sediment pin we placed below Henley Avenue in April 2020. When we can get to it again, it will be interesting to see what it can tell us about sediment deposition.



Above: The extraordinarily long sand spit in early December

Below left: It's good to see the recent upgrade of the beach access boardwalk from the carpark. Though it may be some time before it can be used, given estuary basin water levels and the changing mouth profile!

(below right) Photoa Bruce Ferres



SWALLOWS

By Angela Kirsner

Did you see the family of Welcome Swallows nesting above the Mt Martha Village pharmacy? I first saw them at the end of October (right), five fledglings regularly fed by two over-worked parents, seemingly oblivious to the busy footpath below.

But what is the fine white curved line on one parent's head? After some sleuthing, I am reliably told it is from the fledglings' beaks, as the parent's beak goes fully into the infants' mouths to deposit a meal. The infant beak is outlined in white during the period it needs to be fed!



A week later, just two noisy, demanding chicks remained alive, while two corpses flopped macabrely over the edges of the nest (left). I guess the third was in there too.

Another ten days and they were out. Did they both survive? I don't know, but one was still demanding food on the wires above the footpath.



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FIELD NEWS

Field Officer Liz Barracough reports

Friday morning working bees through October and much of November were yet again devoted to hunting down Forget-me-nots, north of Geoff Kaye Bridge and below Balcombe Preschool on Hopetoun Creek. It's not left enough time to tackle the Angled Onion that is appearing in many places. Next year!

Below Balcombe Preschool we pulled heaps of Nasturtiums and Thistles and covered huge piles of them to in black plastic to rot.

We also worked in the Rabbit Paddock, where lots of plant guards had been removed and replaced by yet another BMX jump and trail.

Sundays have been Polygala days! – yet again removing it from the top of the Rabbit Paddock. With an enthusiastic turn-out, we've really made a

difference, though we still need to remove more mature ones. Then it will be vital to follow up. Already small seedlings are appearing, and the seeds remain viable in the ground for a decade or more.

Videos

We have made two more training videos: on control of Sweet Pittosporum, and planting methods and techniques. Filming again was by Eddie Fraker, of Southern Exposure Media, with Tamara Keyte starring as presenter, and funding from our Port Phillip & Western Port Catchment Management Authority grant.

Naturelinks

Our wonderful contractors have continued, under grant and Shire funding, tidying and weeding round the old Campground, notably the massive crop of milk thistles. They have weeded and cared for our precious orchid area with hand-weeding, careful (and minimal) spot spraying and a little brush-cutting. And they have continued the ongoing task of removing weedy ground cover and grasses from lots of other areas.

Along Hopetoun Creek below Greenfield Way, they tackled a stack of scramblers and climbers: Dolich

pea flowering high in trees, English Ivy, Ink weed, Passionfruit Vine, Moth Vine, Cordyline, Blackberries, Rambling Dock and Bridal Creeper. And closer to the ground, Shade Crassula, Arum Lilies, Agapanthus and Tree Tobacco.



Left: Nasturtiums thriving on Hopetoun Creek below Balcombe Preschool. Right: Verona Ramson adds to a vast pile of weeded Nasturtiums that will be to be covered in black plastic to rot.

Photos Liz Barracough

HOP GOODENIA *GOODENIA OVATA*

By Sue Brabender

As our Acacia species finish flowering, Hop Goodenia provides another splash of yellow along Balcombe Creek. It is a favourite with a wide range of pollinators including tiny native bees and beetles. It is also a butterfly host plant, I have seen Common Browns visit these plants in my garden. Along the Bunyip Walk it flowers profusely in both full sun and deep shade beneath the Sheoaks and Black Wattles.

A hardy indigenous plant, it is a fast-growing sprawling shrub or ground cover which flowers for a long season. It is ideal for under-planting in the home garden. Up to 1 metre or so high and 1-3 metres wide, with glossy green leaves, Hop Goodenia provides food for invertebrates and our small insect-eating birds (insectivores), such as Grey Fantails, Eastern Yellow Robins, Golden Whistlers and Brown Thornbills. Rosellas eat the fruit.

Hop Goodenia also provides excellent shelter for many smaller bird species, which generally can't compete with larger birds for resources. In particular, the Noisy Miner excludes small insectivores and nectarivores (nectar-feeders) from its territories. Noisy Miners have become abundant and widespread and are strongly implicated in the loss of small birds from cities (see below).

Hop Goodenia is useful for bog gardens, rockeries and under trees. It accepts hard pruning, and tolerates drought, moderate frost, dry soil, or poor drainage and waterlogging. Can you find room in your garden for one or two of these wonderful local plants? Perhaps in a pot

Pollinators on Hop Goodenia,
clockwise from right:

1. Probably a Reed Bee
2. A native fly, species unknown
- 3 & 4. Probably both Shield Bugs
5. Cabbage White Butterfly (an introduced species but nevertheless a pollinator)

Photos Sue Brabender



if not in your garden? You too can look forward to the local fauna visiting your patch.

THE PROBLEM OF NOISY MINERS

Noisy Miner populations have exploded over recent decades in eastern Australia's urban environments, to become one of the most common species, and a dire threat to small birds. These intelligent, territorial native honeyeaters live in colonies as large as several hundred birds. They ferociously defend their territories, chasing and attacking intruders, no matter the species.

The impact on small bird populations has been such that in 2014 Noisy Miners were listed as a Key Threatening Process under the Environmental Protection and Biodiversity Conservation Act 1999.

The implications for biodiversity are even more serious than the loss of small birds. Small insectivorous birds help to keep trees healthy by feeding on the insects that attack them. By contrast, for example,

Eucalypt lerps and psyllids are groomed by Noisy Miners, causing an explosion in their numbers, to the detriment of eucalypts.

Noisy Miners thrive in open habitats with limited understorey and a plethora of nectar-rich plant such as eucalypts and large hybrid grevilleas – as in so many of our parks and gardens. Small birds, by contrast, will thrive where there is suitable habitat for them to escape to.

What can gardeners do?

- Provide thick understorey plantings, preferably indigenous – Noisy Miners don't like dense vegetation.
- Use mulch. Again, they don't like it, but prefer mown grass, where they will forage for food.
- Noisy miners are attracted to a variety of nectar sources, so limit nectar-heavy species such as eucalypts and grevilleas, beautiful as they are.

- Sheoaks and Acacias are better – they provide no real support for Noisy Miners.
- Black Wattles (*Acacia mearnsii*) create habitat and a food source for many other species. A survey found 2000 invertebrate species on a single black wattle, while a nearby large black wattle on a road reserve was found to attract moths, black cockatoos, welcome swallows and sugar gliders.
- Hedge Wattle (*Acacia paradoxa*) and Prickly Moses (*Acacia verticillata*) provide refuge for smaller birds

Is culling an option?

Certainly is not a readily available one, nor a universally successful one, though approved culling has had some limited success. To read about recent research see an article in *The Conversation*, 13 October 2021, at:

<https://theconversation.com/should-we-cull-noisy-miners-after-decades-of-research-these-aggressive-honeyeaters-are-still-outsmarting-us-169524>

POBBLEBONK BOB

From Ian Horton

Meet our resident pond frog – Pobblebonk Bob. We've been hearing his (her?) calls for some time, but a while ago they stopped. We assumed he'd moved on, until a neighbour brought him back, found in her swimming pool. He'd just been on a holiday!!

He is now happily back in the pond, bonking away at all hours. Though rarely seen, it is a delight to have him in our garden.

I built the pond (2.5m x 1.2m x 45cm deep) six years ago to attract frogs, with a little solar-powered waterfall. We added some fish, then learned that fish eat tadpoles! So I built a second, fish-free pond with hollow logs and frog-friendly plants.



I photographed Bob on our kitchen bench, *en route* to this enticing new pond. But he prefers the old one and took himself back to it. We think he lives in the ground beneath the waterfall – cosy and safe.

At the moment he is particularly vocal, his calls resonating from below the waterfall. His usual daytime call is a single 'bonk' at 8-10 second intervals. Sometimes he's quiet for a bit, but in the evenings and most of the night, he is operating, a prolific 'bonker musician' trying to attract a mate I imagine. Sometimes we hear a more gravelly groan at the same time as the 'bonk'. Is this another frog? – it is very hard to distinguish.

Bob, the Hortons' Pobblebonk, sends Christmas good wishes as he enjoys the limelight and luxury of his abode (both of them)!

Come along to our Bushland Activities	Join us at Waterwatch & EstuaryWatch	Other Local Groups
<p>❖ 2nd Sunday of the month: between 9.30am & noon – <i>but not January</i>. Details emailed a few days ahead, or call Liz Barraclough 0408 388 430.</p> <p>❖ Coast Group: fortnightly on Wednesdays, between 9.30am & noon. Call Suzanne Ryan 0418 387 604. Details emailed a few days ahead.</p> <p>❖ Friday Group: weekly between 9.30am & noon – <i>but not January</i>. Call Liz Barraclough 0408 388 430. Details emailed a few days ahead.</p>	<p>First Sunday of each month:</p> <p>❖ Waterwatch testing: meet 9.15am at Uralla Rd bridge. Enquiries to Franc Amendola 0433 626 007 or Sue Milton 0407 350 175.</p> <p>❖ EstuaryWatch testing: meet 9.00am at the Rotunda. Enquiries to Bruce Ferres 0435 389 804.</p>	<p>❖ BirdLife Mornington Peninsula bird-watching 2nd Wednesday and 3rd Sunday. Enquiries to Max Burrows mornington@birdlife.org.au or 0429 947 893, or visit www.birdlife.org.au/locations/birdlif-e-mornington-peninsula.</p> <p>❖ Sunshine Reserve working bee 9.30am, last Sunday of month. Call Pia Spreen 0437 299 847.</p>
<p>BERG MT MARTHA PATRON: TERRY DENTON</p> <p>COMMITTEE: PRESIDENT ERIC SMALLEY • VICE PRESIDENT (POSITION VACANT) • SECRETARY KATH SMALLEY •</p> <p>TREASURER & BUSINESS PARTNERS COORDINATOR JULIE ZAMMIT • FIELD OFFICER LIZ BARRACLOUGH • WATERWATCH SUE MILTON •</p> <p>NEWSLETTER ANGELA KIRSNER • MARION ORCHISON</p>		
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THE CREEK

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