



Berg
Mt Martha

Caring for the Balcombe Estuary Reserves

THE CREEK

Volume 21 No 1, February 2017

A GENEROUS PHILANTHROPIC GRANT

BERG MM is delighted to have received \$30,000 from the Helen Macpherson Smith Trust, to fund restoration above the north bank of Balcombe Creek, below Maude St.



Helen Macpherson Smith Trust

DOUBLE DOLLARS

Even better – this Helen Macpherson Smith Trust grant qualifies for matching under the anonymous ‘double dollars’ donation to BERG MM that matches dollar-for-dollar any donations for on-ground work up to a total of \$50,000.

Excitingly, we have now nearly met this generous donor’s challenge in full. A little over \$3000 is all that remains for matching.

So – if you would like to give and double your dollars for BERG MM, here’s your opportunity! (Remember to specify it’s for on-ground work.)

MORE ON THE ESTUARY MUD

Graham Hubbard reports

Readers will remember that the December issue of *The Creek* reported the core sampling of the Estuary mud – the very pleasing outcome of the BERG MM Sedimentation Action Group’s discussions and work with the Shire.

Three cores of sediment were taken, ranging from 2.3 to 3.4 metres in depth – considered an excellent amount to retrieve for sampling.

Initial results of the analysis of the cores have now been provided to the

Shire by The University of Melbourne School of Geography. The three cores all yielded similar results.

In essence, the top 0.45 metres of sediment is fine sand and mud with no fossil material. From 0.45 to 0.95 metres is a layer of dark, rich, organic mud with a high density of root material but no shells. The majority of the core, from 0.95 to 2.5 metres, is fine mud, poorly sorted due to presence of fine shell material, which decreases in density with depth.

Based on these results, the consultants concluded that the estuary environment has developed through three phases.

1. Subtidal low energy basin: For most of the history shown in the cores, the estuary was open and probably some metres deep with mud flats exposed at its margins when the entrance was open.

2. Accretion of seagrass: Progressive infill with sediment from the catchment built the bottom to a level where seagrass could flourish, and a luxuriant seagrass community established, probably 1-2 metres deep.

3. Island accretion: With settlement, deforestation and erosion, sediment smothered the seagrass beds and formed the islands that are exposed at low water levels. The exotic pollen species in these sediments confirm that they derive from human activity. Laminations close to the surface are probably the result of storm-induced sediment flows.

Radiocarbon dating of the shells in the lowest level is currently underway, to add timelines to this history. The University of Melbourne will also run some mineralogical analysis to help identify the sources of the sediments. These results, expected in February, will provide a scientific basis for options to address the problem.

BERG MM TURNS 20

On 1st March 1997, 27 locals attended a public meeting called by Richard Hawkins at the Mount Martha Yacht Club, to form a friends group to restore and care for the Balcombe Estuary Reserves. The ‘yes’ vote was unanimous, a committee was elected, and the Balcombe Estuary Rehabilitation Group (now BERG Mt Martha) was born.



At the Yacht Club at that inaugural meeting: Dennis Corbett (Shire), Maree Shelley (Coast Action) & the committee: Tony Hyde, Joan Stevens, Ewen Richards, Carolyn Graley, Richard Hawkins, Geoff Kaye & John Mitchell. Liz Barraclough, an apology, was elected in her absence. Photographer unknown

We are planning a grand 21st birthday party to coincide with the 2018 Family Day – but in the meantime,

**Happy 20th Birthday
BERG MM!**

WATERWATCH IN 2016

John Inchley reports

Waterwatch continued through 2016, and has been expanded to include the pilot Estuary Watch program. Estuary Watch monitors the saline estuary, Waterwatch the relatively fresh water upstream. Waterwatch monitoring continued at the three established sites: Augusta St Bridge, Uralla Rd Bridge, and The Briars.

Augusta St Bridge has also been included in Estuary Watch, as data show the presence of a ‘salt wedge’

Thanks to the Mount Martha Community Bank for their generous sponsorship of *The Creek* for 2017.



from 0.5m deep downwards. (Waterwatch measures the top 0.2m, where water is fresh or brackish.) Uralla Rd Bridge is normally too far upstream to be influenced by the tidal salt wedge; the one exception last year was in July.

We measure a number of physical and chemical parameters each month:

- **Water temperature** in 2016 followed a similar pattern to 2015, though the water is cooler in months of higher rainfall.
- **Electrical conductivity (salinity)** was unacceptably high in months when high tides and winds that drove the salt wedge nearly 2km up the creek. Results in other months were close to the upper acceptable limit, probably due to geological factors at The Briars, where saline springs were found last year.
- **Dissolved oxygen** readings were all below the acceptable lower limit of 80% saturation, although close to this in months of higher rainfall and higher water flow. The creek's absence of 'riffles' and slow flow rate contribute to the low readings.
- **Phosphate** levels, which had trended down over recent years, were consistently higher in 2016, with four separate readings well above the acceptable limit. This needs to be investigated through testing upstream of The Briars.
- **Turbidity** showed very high levels in July and October after heavy rainfall events during the month, which probably caused run-off. High readings at all three sites suggest that the cause may in part be upstream of The Briars, not solely stormwater outlets downstream of the highway.

Rainfall, monitored by Pam Hearn, in her garden beside Norfolk Reserve, increased in 2016, 803mm vs 555mm in 2015, reversing the decreasing trend over the past 4 years.

Macroinvertebrates are surveyed quarterly. These tiny water bugs provide the ultimate indicator of the quality of the creek water. In 2016 we found the following species:

- **Very sensitive:** Mayfly Nymph, Caddisfly Nymph
- **Sensitive:** Damselfly Nymph, Dragonfly Nymph, Stonefly

Nymph, Fresh-water Shrimp, Freshwater Crab

- **Tolerant:** Beetle Larva, Fresh-water Snail, Backswimmer, Water Boatman, Aquatic Beetle, Scud
- **Very tolerant:** Mosquito Larva, Blood Worm.

An early warning system

As well as providing baseline data, BERG MM's monthly testing helps us detect problems as they arise.

When monitoring at Augusta St Bridge last March, for example, we noticed the estuary had a greenish hue, a possible algal bloom. This can be very serious for survival of fish and other aquatic life. Our testing showed dissolved oxygen at a record low of 10%, extreme salinity (similar to seawater), high phosphate (unwanted nutrients), and a strong 'rotten egg' smell, probably from decaying algae.

We contacted the Shire's Environmental Health team, who did further laboratory tests (oxygen, *E coli* levels). And the results indicated a sewage spill. Well done BERG MM!! (Subsequent heavy rain flushed out the estuary into the bay.)

Monitoring after rain

Monitoring *immediately* after heavy rain can provide information that is otherwise lost. January 2017's testing, for example, took place after 27mm had fallen in the previous six hours. At Augusta and Uralla bridges the water was muddy, flow rapid, and turbidity very high (30-40 NTU). Upstream at The Briars, however, flow was slower and the turbidity much lower (<10 NTU).

This suggests that most of the turbid, muddy water entered the creek via stormwater drains downstream of the highway, rather than further up the creek – an interesting comparison with the turbidity readings discussed in the previous column. Those, however, were not taken immediately after the heavy rain so may not provide an accurate picture of the turbidity source. If monitoring does not occur until days or weeks after rain events, it gives time for the turbidity to settle, masking the possible source.

THANKS TO TRADER DONOR

Chris Street, of Mornington Peninsula Gardening

PRIORITIES FOR 2017

Graham Hubbard reports

The BERG MM Committee and other key group leaders attended our annual strategic planning day in January. We agreed on the following priorities for 2017:

- Seek an Environmental Significance Overlay for the estuary and reserves. If we can achieve this, it would permanently protect our unique reserves.
- Carry out an extensive works program including the Maude St project; Hopetoun Creek; Friday, Tuesday, Coastal & Sunday working bees; the Shire's bushland management program; & Green Army & schools programs.
- Implement the 2016 Sedimentation Action Group / Shire plans.
- Increase our community awareness, support and involvement.
- Consolidate and develop a program of funding opportunities outside our regular funding sources to advance the program of on-ground and other work in the reserves and the community.
- Consolidate and develop trader support, begun in 2016.
- Review and update Campground signage, if funding can be found, and check all other signage for relevance and usefulness.
- Establish a more sophisticated database (preferably cloud-based) for our increasingly complex financial & administrative systems, to improve efficiency and make us easier to access and deal with.
- Develop a plan to celebrate BERG MM's 21st birthday year in 2018.

As usual, this is a very challenging program and we appreciate any practical, moral or financial support you are able to give us with these or any other of our many activities.



Graham Hubbard leads the discussion at the strategic planning meeting. Photo Richard Kirsner

FIELD NEWS

Field Officer Liz Barraclough reports

Working-bees

December and January have been time off for most of our working bees. One only met: Susanne Ryan's redoubtable Coast Group. On 18th January in perfect cool weather, after scorching heat, five BERGers plus Tamara from Naturelinks scrambled over the foreshore slope opposite Dominion Road to remove Polygala and Boneseed, and make a substantial dent in the woody weed population.



It's a good life! The January Coast working bee

Grant for Hopetoun Creek

We have recently learned that we have a Melbourne Water 2017 grant of \$18,238 to continue our work along Hopetoun Creek.

Work along Maude St

We have an array of funding, much of it philanthropic, to cover the integrated restoration of this large area of reserve, shown on the colour-coded map below:

- Along the roadsides are the Shire's Fuel Management zones, *blue-hatched* (slashed) & *green* (mown).
- The ongoing work in the *yellow* area is funded by a Melbourne Water 2016 grant of \$16,421. The adjoining two areas *outlined in yellow*



are managed by the Shire under its Bushland Management Program. Immediately NE of this are a number of contiguous areas from the road down to the creek:

- The Sally Oatley Memorial Fund grant of \$15,000 has funded restoration of the *orange* strip about 15 metres wide, parallel to the road.
- Restoration in the parallel *green* strip will be funded by a Port Phillip & Westernport Catchment Management grant of \$14,307.
- Next is the large *pink* area, where work is being funded by the \$30,000 grant from the Helen Macpherson Smith Trust.
- Below this, another narrow strip extending to about 15 metres from the creek, outlined in *red*, will be covered by a Melbourne Water 2017 grant of \$18,092.
- Finally, the bright *green* along the creek itself marks an area managed by the Shire under a Melbourne Water Corridors of Green grant.

On 10th January our assessment team (BERGers Bronwyn & David Street, Sue Milton & me, Naturelinks' Vyv Stryder & Danielle Suffern & Hannah Brown, Shire) assessed these grant sites as a basis for a detailed work-plan with costings, priorities, time-frame, constraints and follow-up.

Naturelinks will work progressively down the slope tackling woody weeds (Pittosporum, Flaxleaf Broom, Polygala, Italian Buckthorn, Sallow Wattle), scramblers (Blackberry, Ivy, Pandorea) and some grasses. Forget-me-not control will also be an essential part of management, to try to rein in this invasive weed.

Some of the Bracken will be slashed to encourage indigenous flora, as Bracken, while also indigenous, is thought to inhibit some regeneration.

BERG MM working bees will help with some of the woody weeding and enhancement planting.

Before we start, we are asking Bird-Life

Mornington Peninsula to survey the area, noting the species in different habitats and management sites. The results will inform the timing, sequence and methods of weed control. We will take particular care in the lower, steeper area, to avoid bank erosion, over-exposure of Maidenhair Fern, and threat to important bird habitat.

We are considering trial burns (with weed burners) of some 10x10 metre quadrats to encourage species diversity.

Follow-up throughout the area will be funded by the 'matched' philanthropic funds (see page 1).

And funds for community awareness

Of the grants received, \$2,000 from the Helen Macpherson Smith Trust is for newsletters and signage for Family Estuary Day, and the PPWCMA grant includes \$520 for newsletters and \$900 for interpretive signage.

CAN YOU HELP?

MORNINGTON PENINSULA SCHOOLS' ENVIRONMENT WEEK MON 20-FRI 23RD MARCH, THE BRIARS

E'Week has provided environmental activities for primary and pre-primary students since 1983. We need volunteers to help with:

♦ **BERG MM's Wetland Health program:** With a magnifying glass, kids look for water bugs in trays of creek water, and we assess the creek's health based on what we find. 8x25-minute sessions daily (9.30-2.30).

♦ **Catering:** Lunch for presenters & volunteers. We need people to make bulk salads (coleslaw, rice, potato etc). Recipes, ingredients & containers provided.

♦ **General help** at other displays & workshops (eg planting stalls).

Call Jenny Selby: 0432 719 288,
or email: jenselby22@gmail.com

Clean Up Australia Day SUNDAY 5TH MARCH

Join with BERG & others to clean up beach, creek & surrounds. Register & pick up your rubbish bag at the car park, cnr Esplanade & Watson Road, anytime from 9.30 to 1.00.

Enquiries to Liz Barraclough:
0408 388 430.

VALE BRIAN PULLMAN

Brian Pullman, long-standing member of BERG MM, died on 10th January. Brian joined BERG in March 1998 after moving to Mt Martha from Shoreham, where he had been much involved with the Foreshore Committee. He was one of the first members of Mary Stemp's Tuesday Group, was briefly on the Committee, and with a PhD in organic chemistry and a career with ICI, rapidly became a keen Waterwatcher, leading the team for a time. Poor health made him ease out of on-ground work, but he remained a committed and interested BERG MM member.

His sense of fun comes through in his recollections of BERG written, at Mary's behest, for our history, *Up the Creek*.



'Sunday working bees', he wrote, 'comprised learning on the job, much banter, dogs running through the bush, the occasional accidental removal of a "good" plant, the much valued morning tea and developing friendships... It was important that the few male volunteers... spent as much time as possible contemplating work progress.... Shovel and rake handles were tested for strength by leaning on them; the easier planting holes were augured so that the women could do the back-breaking work of planting, mulching and watering. But equality was restored at morning tea time, where the men excelled.'

He will be sadly missed by those of us who often, as we worked in the Reserves, were greeted by him and his partner Issy when walking his beloved dog.

Liz Barraclough

BERG Mt M Working Bees	Other BERG Mt M Activities	Other Groups
<ul style="list-style-type: none"> ❖ Sunday working bee: monthly, 2nd Sunday, between 9am & 12 noon. Details emailed a few days ahead, or call Liz Barraclough 0408 388 430. ❖ Tuesday working bee: monthly, 2nd Tuesday between 9am & 12 noon, meet at end of Latrobe Dve. Call Jenny Selby 0432 719 288. ❖ Coast Group: monthly, 3rd Wednesday, between 9am & 12 noon, meet in car park by the Yacht Club. Call Suzanne Ryan 0418 387 604. ❖ Friday working bee: weekly between 9.30am & 12 noon. Call Sue Betheras 0408 808 201. 	<ul style="list-style-type: none"> ❖ Waterwatch testing: monthly, 4th Sunday 9.15am, starting at Augusta St Bridge. Call John Inchley 5974 1095. ❖ BERG Mt Martha Committee meets monthly at Mt Martha House, 9.00am, usually the 2nd Saturday. Next meeting 11th February & 11th March. All members welcome. 	<ul style="list-style-type: none"> ❖ BirdLife Mornington Peninsula bird-watching 2nd Wednesday and 3rd Sunday. Enquiries to Max Burrows 9789 0224, mornington@birdlife.org.au or www.birdlife.org.au/locations/birdlife-mornington-peninsula. ❖ SPIFFA 1st Monday, 7.30 pm, at Parks Vic, Hinton St, Rosebud. Enquiries 5988 6529, or www.spiffa.org. ❖ Sunshine Reserve working bee 9.30am, last Thursday of month. Call Pia Spreen, 5974 1096
BERG Mt MARTHA COMMITTEE PRESIDENT GRAHAM HUBBARD • VICE PRESIDENT PETER MCMAHON • SECRETARY DIANNE LEWIS • TREASURER JULIE ZAMMIT • FIELD OFFICER LIZ BARRACLOUGH • NEWSLETTER ANGELA KIRSNER • COMMUNITY AWARENESS BARBARA THRAVES • PHILANTHROPY BRONWYN STREET • WATERWATCH JOHN INCHLEY • FORESHORE GROUP SUZANNE RYAN • SUE MILTON		
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