MOGGILL CREEK CATCHMENT GROUP

www.moggillcreek.org.au

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NEWSLETTER

SPRING 2011

◀ Mother-in-law's tongue (see p. 6)
Photo: Bryan Hacker

Pointed leaf hovea (see p. 7) ▶
Photo: Bryan Hacker

◀ Regent skipper (see Food Plant density p. 6)
Photo: Don Sands

Cat's Claw (see p. 4)
Photo: Bryan Hacker
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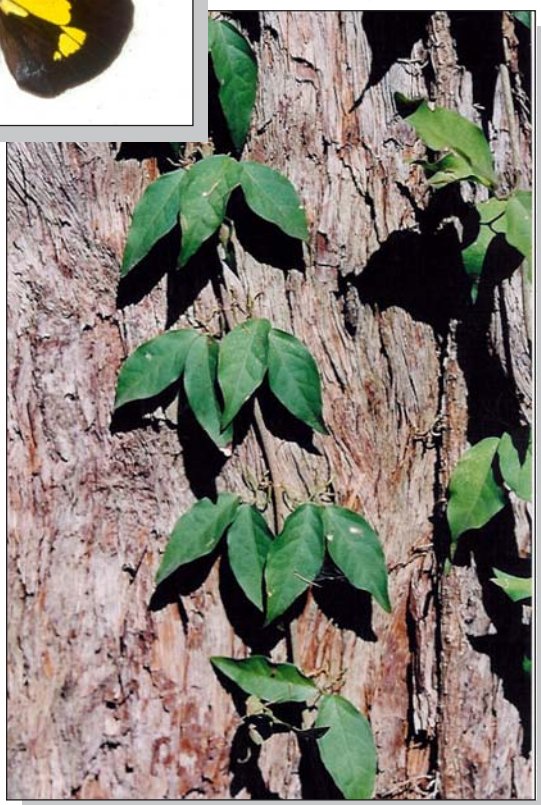

▲ Another happy customer (see Have you visited our nursery? p. 7)
Photo: Bryan Hacker

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Editorial

After receiving the standard Reports, the usual two articles about a native and an exotic plant, a notice about a forthcoming event, a request for information about a weed and a reminder about nursery activities-all necessary- the Editor had nothing else which could be an interesting read. His pleas seem to fall on deaf ears. So, he had to make demands on a few of our members who already have more than enough to do for us. Well, it had some interesting results.

The articles on Food Plant Density and figs fortuitously have a common basis; that merely our having a wide variety of plant species in the catchment is not enough. A sufficient number of individuals in adequate proximity is required. In the case of butterfly food, is the individual landholder, usually isolated from another, expected to build up the numbers? Should MCCG look at arranging special plantings? The Richmond Birdwing Conservation Network is planning just that for its butterfly.

The other two "demanded" articles, the bobucks and flood damage, remind us that while meetings and talks are an essential part of our activities, we need keen observers on the ground to see and tell us what is going on out there. You are all potential observers.

Moggill Creek Catchment Group is a volunteer action group aiming to conserve and improve the natural environment of its catchment on both private and public land.

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GUEST SPEAKER FOR MCCG AGM

24 November 7.30pm - Brookfield Hall

Nick Rigby will speak on "Living with Wildlife".

Nick is Director of Wildlife Management, Qld Parks and Wildlife Service, Department of Environment and Resource Management. Before his present position he was CEO of the Lord Howe Island Board. Being responsible for wildlife management, he has to deal with controversial issues such as flying foxes and crocodiles. Because of the Hendra virus he has been particularly busy lately.

All welcome, members and visitors

Chairman's Report

How quickly things change! We are all beginning to complain that we have too little rain! However, the recent pattern of day after day of fine warm days is not hard to handle.

We are very pleased that at last our *Review of Progress and Challenges from 1999 to 2010* has been completed. A copy has been placed in our Cottage and it is also on our web site. Copies have been sent to several politicians and Council employees and we are hoping for an opportunity to discuss with them the many issues that have been identified. Your Management Committee has discussed the recommendations described in the report and with a view of seeking ways of finding solutions to these challenges. In addition, and importantly, as we would greatly value any comments from our members, we intend to invite all members to a meeting to discuss how we should move forward.

All planned tasks for riparian restoration by the Brookfield Road bridge. funded by our Commonwealth Community Action Grant, have now been completed, thanks to Bryan and Jenny Hacker, Damien Egan and others. Maintenance is ongoing. MCCG has submitted proposals for Community Action Grants, for restoration work along part of Gap Creek, Kenmore Hills and a further submission for restoration work at the eastern end of Huntington Park. Planting has begun along Rafting Ground Rd, by Boscombe Road and within Brookfield State Primary School grounds on the other side of the creek.

It is very difficult to determine how much restoration work goes on in the catchment month after month. MCCG keeps records of work undertaken on public land through organised working bees. Working bees are currently held each month on sites in Lower Moggill Creek, the riparian zones adjacent to Huntington Park (Tuckett Park), near the Showgrounds, areas within Kenmore State High School, McKay Brook and Gap Creek.

We have much less information about what is happening on private land, although we are sure that many landowners devote much time and many resources to improving their land. Over 50% of our catchment is privately owned and although Council does support some private land owners, the level of funding is very small compared to their funding for public land restoration. There has been recently an interesting development to restore private land. Several land owners in the Pacey Creek subcatchment have decided to work together with MCCG and without the help of Brisbane Council. As MCCG is keen to support such initiatives, we are exploring ways of encouraging others to do the same. Our activities must encourage greater activity on private land if the catchment is to be in any sense restored.

Once more mention must be made of the very successful and enjoyable Kids' Day that Dale Borgelt arranged at the Cottage. Volunteers, too many to mention by name, contributed in many fantastic ways.

Emma Maltby's resignation

Emma is to relinquish her position as Creek Ranger for MCCG at the end of August. We are very sorry to see her go as her competence, enthusiasm and cheerfulness will be sadly missed. We all wish her well.

Malcolm Frost

Creek Rangering, what's it all about?

Sometimes it can be tricky to summarise exactly what the Creek Ranger role is all about. In turn I know that others (inside and outside of Council) are sometimes a little "hazy" on exactly what we do. During the last few months, I have been tinkering away on projects and activities that are sound examples of what the Creek Rangers role is. I thought I'd share three examples here (there are plenty more, but not enough space here).

It's been a busy time on the school education front. I have spent quite a bit of time with Yr 4-7 students of Upper Brookfield State School who are this years' Catchment Kids class. Last week we did our long awaited catchment tour, visiting various sites throughout the area. Kenmore State School is this years' Goa Billboard Competition School, so I worked with them on this exciting and innovative environmental art project. Students at Our Lady of the Rosary School thoroughly enjoyed the "Story of Moggill Creek" Activities when I visited them in May. And of course, I have visited several schools to promote the schools' category of the MCCG Photo Competition.

May, June July are busy months for the Federal Government's Caring for Our Country (C4C) Grant Programs. I worked with the Huntington St Bushcare Group on a Business Plan grant application to continue their restoration efforts along Moggill Creek – the target: chinese elms. I also worked with the Gap Ck Bushcare Group on a Community Action Grant application with the hope of removing some large camphor laurels from the riparian zone.

Finally, something exciting has been emerging from Pacey Rd. A small group of residents, MCCG and I have been doing some ground work to develop a private property riparian restoration project in this sub-catchment. On August 20th the first Pacey Rd "roving working bee" was held and we will be developing some funding proposals, aiming for submission early-mid next year. Funds will be used to support property owners with on-the-ground works and some skill workshops also.

So, in a (rather large) nutshell, these types of activities (school education, grants, community engagement in natural area restoration) are representative of what some of the Creek Ranger role is about.

Emma Maltby

Bringing back the figs

Of the 800 or so species of fig (*Ficus spp*.) worldwide, we have eight in our catchment. Fairly certainly they were originally abundant but the European newcomers took a dislike to them and set about removal. At the best they were not useful for their timber and there were some reasons for avoiding them around dwellings. Except for the creek sandpaper fig, few remained. We now recognize their ecological importance, bearing heavy crops of fruit which are food for many species of birds and other animals.

Are they likely to come back through natural regeneration? Five of the eight species are smooth leafed (the other three are sandpaper figs, aptly named if you feel the leaves). The five are considered first. (There is a sixth but there is doubt that it occurs naturally here.) They have the common feature of rarely establishing on the soil surface; rather, seed landing on rough bark of some species or in hollows or crevices of trees germinates, roots growing down to the ground and becoming in due course the trunks. A requirement then is that there be old seeding figs to provide the seeds for removal by birds (normally), and suitable places on which to grow. And these are the very things which our land management practices have removed from the lowlands where figs thrive.

(My comments here on natural regeneration are based on my very limited observations, not on systematic vegetation surveys which are beyond MCCG's resources.)

Three of the five species are well enough represented for us to be able to say where one may be seen within a few kilometers, but apparently not close enough to one another to provide seed for regeneration everywhere. For example, there was (until recently when the landowner cut it down!) a large old rock fig (*F. rubiginosa*), less than 1 km. from my boundary, and which fruited abundantly, while I had about the nearest stand of old wattles, a favourite host for that fig. As a result, I now have a number of well established rock figs; but not on the further side of my property. On the other hand, there was no mature Moreton Bay fig (*F. macrophylla*) hereabouts and I have not seen a self-established specimen here. There are fruiting trees of it close by our Cottage and we have starters there. The same contrast between the two locations applies to the white fig (*F. virens*). I have no fruiting tree nearby nor young plants, whereas there is an old tree by the Gold Creek dam building and seedlings have become a minor weed in the nursery. As for the other two smooth leafed species, the strangler and deciduous figs (respectively *F.watkinsiana* and *F.superba*), there is little prospect of either arriving naturally. Only one tree of each species is known to me in the catchment, both far up the Gold Creek valley beyond the dam.

The situation is little better for the three sandpaper figs, all of which start life at ground level. The creek sandpaper (*F. coronata*) remains abundant along the creeks but the other two (lacking common names) are scarce, particularly *F. opposita*, only two thriving trees of which have been brought to my attention in the catchment . *F. fraseri* is better represented without being at all abundant although we see occasional seedlings.

The overall position then is that without substantial planting, which we are encouraging, our vegetation will be lacking in an ecologically important component. We have therefore been propagating as many as we can (limited by seed supply) in the nursery.

By way of highlighting the smooth-leafed species, we have planted one of each in isolated positions as specimens (to allow full spread of canopies) in the vicinity of the Cottage; two in the immediate Cottage surround and the other three along the uphill side of Cottage Road.

The photos on p5 show the massively developed bases of trunks (formed from the original aerial roots) of four of the smooth-leaved species. Note that the rock fig has established on a rock outcrop, while the original host tree of the strangler has long since died and rotted away.

Graeme Wilson

Cat's Claw

Cat's Claw – funny name, serious weed

I would like help from members in gaining a clear picture of where cat's claw exists in the various sub-catchments – PLEASE HELP IF YOU CAN!

As a result of our recent Review of achievements over the last 10 years (see the website) a few of us think cat's claw is a major threat to our remnant forests. We **may** be able to restrict its spread and manage the threat in the Gold Creek, Wonga Creek and Gap Creek sub-catchments. Moggill Creek catchment appears to be a much bigger challenge. At present we do not have enough knowledge about how widespread it is, and the size of the infestations; gathering and collating this information with regards to smaller sub-catchments is the **first step** in initiating a strategic and targeted approach to controlling cat's claw. MCCG members are the "eyes on the ground" when it comes to knowing what weeds are where. See photo on p 1.

We received a report from the Gympie "Cat's Claw Crusaders" **http://www.youtube.com/watch?v=GThHl2BYwiE** that describes and shows how they are managing cat's claw. I encourage you to view it.

If you are able and willing to help, please contact me on **3374 1407**, or **adrian@webbnet.com.au**

Adrian Webb

Roebuck at home (See Nest Box Story, p. 8)
Photos: Land for Wildlife

▲ Seen from above

▲ Looking out the door

Trunk bases of some figs (see Bringing back the figs p. 2) *Photos: Graeme Wilson*

Moreton Bay

Strangler

White

Rock

Food Plant Density Can Influence an Insect's Survival

The major factors that influence the survival, or recovery of insects in our catchments, range from: (i) presence of a specific food plant, (ii) an appropriate climate, (iii) certain soil types supporting a plant community, and (iv) shade and cover, height and age, from overhead vegetation. Clearly, vegetation plays the most important role by determining the species of insects living in each locality, but as we plant and restore disturbed or degraded lands, we can help restore some of the insect life, so important for our healthy bushlands.

There is very little ecological information in our literature about the way insects interact with their environments, especially the "ecological requirements" of each species. Many insects are dependent on only one species of plant, or groups of related plants, as food for the immature stages. They need not only the "right" plant present in order to breed but a certain number of individual plants, within the confines of a habitat, before the stimulus to lay eggs is triggered in a searching female. When restoring populations of insects, especially some a butterflies, it can be important to know how many separate plants need to be planted in one area, and the particular stage and height selected for egg lay, before the desired insect species can be coaxed to breed.

This strategy has evolved in each species to ensure detrimental effects will not result in extirpations (= local extinctions). For example, small numbers of plants will support even smaller numbers of insects developing to the adult stage, when the number of natural enemies – often other insects – that cause heavy mortality, is high. It is not uncommon to find out that of 100 eggs deposited by one female, only 2-3 survivors will reach the adult stage, after developing through the susceptible immature stages, the larva and pupa. Genetic imprints in species are also likely to avoid wastage of eggs deposited: e.g. cannibalism is common and may reduce the numbers on one plant to only very few or one survivor. Therefore the female requires a number of plants over which eggs may be deposited.

Most importantly, in-breeding depression becomes much more likely when siblings all develop and emerge as adults together, on a few nearby plants, and when freshly emerged adults can find no unrelated individuals to mate with. Incest is a common and deleterious problem for their survival! In-breeding depression is a common problem with butterflies and seems to be more serious for some of those larger swallowtails that have a natural urge to wander far, in order to avoid mixing their genes with relatives of their own species! In-breeding depression does not by any means occur in the majority of butterflies and it may differ in severity from one species to another, even those species closely related and in the same family.

Two unique and beautiful butterflies, both now extirpated from the Western Suburbs, the Richmond birdwing (*Ornithoptera richmondia*) and the Regent skipper (*Euschemon rafflesia* – photo p1), must have critical densities of their own food plants (*Pararisotlochia praevenosa* and *Wilkiea* spp. respectively) in any one area, if they are to persist locally and sustain breeding of local populations.

Don Sands

Mother-in law's tongue (Sansevieria trifasciata)

Mother-in-law's tongue (*Sansevieria trifasciata*) is well known as a hardy garden plant and also as a pot plant that survives readily with very little water. The illustration on page1 shows a fine specimen in a pot, growing at a holiday house in Noosa. There is no harm in having it in a pot, but discarding an un-loved plant in the bush is another matter.

Mother-in-law's tongue is listed in the Council's Invasive Species Management Plan July 2007-June 2011 under the heading 'Environmental Weed – Containment & Reduction'. In the Flora of South-eastern Queensland (1989) it is noted as having escaped from cultivation in a few places in the Moreton District. Once established, it spreads quite rapidly by means of its thick, orange rhizomes (underground stems). Control is best by digging up by hand, making sure you remove all the rhizomes. But don't make the mistake I made, using the cut-off leaves as a mulch – they have the nasty habit of sprouting new plantlets along the margins! It is reported not to be very sensitive to spraying with glyphosate, although treating cut leaves can be effective.

This African species is readily identified. Leaves are erect and up to 175 cm tall and 9 cm wide, and are dark green with many lighter transverse bands. Inflorescences of small, green flowers appear in summer, but it does not appear to spread readily from seedlings

Also grown around our area are var. *laurentii* with yellow leaf margins and *S. cylindrica*, with cylindrical leaves. Although not specifically mentioned, all varieties and species in this genus are likely to have weed potential.

Bryan Hacker

Have you visited our Nursery?

Probably many of our members will be familiar with our Nursery, a facility that is a fundamental part of MCCG's operations, and which is directed towards helping private landholders in our Catchment. However, some readers may not be aware of all the good work carried out by Nursery volunteers and the fact that MCCG members (and Pullen Pullen Catchments Group members too) obtain thousands of free locally native plants from this Nursery each year.

MCCG's nursery has been central to MCCG's work since the group was founded. Our principal aim is to help member landholders revegetate their land by providing them with free locally native species appropriate to their properties. While the main focus is towards helping acreage landholders, we also provide free plants for planting on smaller properties, as ornamentals or for attracting birds or butterflies.

Starting from small beginnings in 1999 under co-ordinator Michael Reif, our Nursery is now a substantial operation, giving away 12,000 to 15,000 plants every year. Most years plants of about 200 local species are grown and given away. Some members have received over 1,000 plants from the Nursery since it started operation. No limit is placed on the number of plants a member can take away – there is just the request that they do not take more plants than they can care for. The photo on p.1 shows a customer taking plants.

The Nursery is at the end of Gold Creek Road, just below The Cottage, MCCG's Environment Centre. Seed is collected and germinated in trays by volunteers, who meet on the 1st and 3rd Monday each month. Sometimes seed is collected away from the Catchment – but that is all right providing the species occurs within the Catchment. Graeme Wilson, Nursery Manager, says there is always a need for more seed. Sometimes plants are grown from cuttings, especially where germination is difficult. One particular protected species, the Birdwing Butterfly Vine (*Pararistolochia praevenosa*), is sold for $8 per plant – these are made available in larger pots and are sold at an age of 2-4 years.

We don't maintain a list of plants in stock, as the range of available species changes from week to week, depending on supply and demand. However rainforest and eucalypt woodland trees, shrubs, grasses and herbaceous (groundcover) plants in a range of species are mostly available.

There is always a need for nursery volunteers, particularly for seed collection. Other tasks include sowing seed, potting up seedlings, weeding and general nursery maintenance. In addition to MCCG volunteers, Pullen Pullen Catchments Group members help too, and PPCG members are also eligible to receive free plants. The surrounds to the Nursery have been revegetated with local rainforest species, which provide examples for those seeking plants for their own properties.

Other than for working bees, the Nursery is only open by appointment. Members of MCCG or PPCG who would like to obtain free plants should contact Bryan Hacker (ph **3374 1468**; email **jbhacker@powerup.com.au**) to arrange a convenient time (weekdays or weekends), or come to the Nursery during the volunteer working bees, on the first and third Monday of the month.

Bryan Hacker

Pointed-leaved hovea, purple pea bush (Hovea acutifolia)

Pointed-leaved hovea is a well-branched shrub to c. 2 m tall and wide which is found in SE Queensland and also occurs in coastal districts of central and northern NSW. It is quite common around Brisbane, growing on lower slopes in eucalypt woodland and rainforest margins. This species is spectacular in July-August, when it flowers prolifically (see photo p.1), and is well worth a place in any garden, as well as being a useful understorey plant in appropriate situations.

Leaves are alternata and simple, up to 9 cm long and almost 2 cm wide, broadest about the mid-point and tapering towards either end, the lower surface paler than the upper and more or less covered in rust-coloured hairs. Flowers are typical pea-flowers, purple in colour, in clusters of 1-4 in leaf axils. These are followed by turgid pods containing two seeds, which become black as they ripen.

Hovea is an endemic Australian genus, that is, no species of this genus occur naturally outside Australia. Another *Hovea* species is reported to be common in Brisbane's western suburbs (Mangroves to Mountains, p. 159). This is *H. lorata* (described as a new taxon in 2001), which is readily distinguished by its parallel-sided leaves

Bryan Hacker

Some observations on flood inundation

There has been much discussion in recent months about the damaging effects of rapid runoff on existing and planted vegetation in catchments.An impact less talked about is the ability of plants to survive prolonged inundation.

While most of the Moggill Creek catchment is not subjected to this type of flooding, the lower catchment is, along with many other areas adjacent to the Brisbane and Bremer Rivers. For the past 12 years I have been involved in revegetation of the lower reaches of Six Mile Creek at Collingwood Park, formerly the site of Westfalen No.3 coal mine. The creek enters the Brisbane River downstream of the Moggill ferry and rises little through its lower catchment. Most off this 70 ha site was flooded for 1-2 days, but the main creek-side revegetation area remained submerged for 5-7 days.

As a result of this prolonged inundation, up to 50 percent of our established trees died. While the diversity of planting was not as great as it could have been, there were some species that not only survived but in most cases showed negligible damage. These were: *Aphananthe philippinensis, Castanospermum australe, Casuarina cunninghamiana and glauca, Cryptocarya triplinervis, Elaeocarpus obovatus, Eucalyptus tereticornis, Glochidion ferdinandi, Grevillea robusta, Lomandra longifolia and hystrix, Lophostemon suaveolens, Mallotus philippensis, Melaleuca salignus, Streblus brunonianus* and *Waterhousia (Syzygium) floribundum*.

While there are other species including those mentioned above whose survival is still uncertain, there were a number of spectacular failures; all species of *Acacia, Corymbia, Eucalyptus* (with the exception of *tereticornis*) and *Flindersia, Araucaria cunninghamii, Ficus macrophylla, Ficus rubiginosa, Harpullia pendula, Lophostemon confertus* (although some individuals are shooting from below ground) and *Polyscias elegans*.

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Having worked on projects and while exploring the banks of the Bremer and Brisbane rivers downstream from Pine Mountain, I have often wondered about the lack of diversity in regrowth on deep alluvial soils. Five species in particular are often present; *Aphananthe phlippinensis, Cryptocarya triplinervis, Eucalyptus tereticornis, Mallotus philippensis and Streblus brunonianus*, but many other species which are commonly associated with them elsewhere and which therefore might be adapted to these sites are absent. While there are many other factors which may be involved in this, such as land clearing, management and weeds, floods of this size, even if only once every 50 years, may be enough to determine the range of species found in these zones. To add weight to this, the most dominant tree in regrowth along the Brisbane and Bremer Rivers is chinese elm. At Westfalen, within weeks of the water having receded, while most other species were deciding to live or die, the chinese elms had already burst in to new growth as if Spring had just arrived.

And a final observation at Westfalen; about 7 days after the flood peak, I went for a walk at night along the muddy creek flats. The only sign of life was thousands of cane toads which, like the chinese elms, were exploiting the opportunity arising from the loss of native competitors. Might such floods tip the balance in favour of exotic species?

Andrew Wilson

Nest Box Story

We have quite a few different size nest boxes on our Land for Wildlife (LFW) property. Over the years we have seen them used by gliders, possums and birds. The short-eared brushtail possum, or bobuck, is a regular visitor. Last year when the boxes were being inspected for use, there was a mother and baby bobuck in one box. Another box, quite near the house, had its lid lying on the ground, so it wouldn't be in use, but the periscope camera was hoisted to look inside anyway. I don't know who got the biggest fright - us - or the startled male bobuck that hurtled out of the top. That was last year. Just last month, July 2011, our LFW officer came to do a nest box inspection and lo and behold there were bobucks in **two** boxes WITHOUT LIDS. The penny has finally dropped. All of our hinged-lid possum boxes have lost their lids. When we saw lids lying on the ground we thought it was weather or age. Now I'm convinced the bobuck forces them off for its own convenience. Whether it prefers easy access, more room, or a top view, I don't know. The nailed down boxes we got from Jean have kept their lids, but check any of your hinged boxes for lids. Maybe our bobuck visitors aren't the only ones to redesign their lodgings.

Dale Borgelt

p.s. A LFW officer has since visited with a still camera on the end of a 3m pole to check the lidless boxes. Sure enough, two of the boxes were being used by bobucks. The photos (p 5) are necessarily unsteady, but show the bobuck perfectly happy with its lidless house. One view is from above, the other through the entrance. I guess the front entrance is now its window on the world.