BREMER CATCHMENT ASSOCIATION INC.

December 2015

around the bremer

Merry Christmas

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The President's Message—Gary Cochrane

As the world had gather in Paris to discuss how to stop global warming one hopes with some anticipation that the Turnbull Government takes on board these sentiments and responds well over the next several months. It's high time more environmental issues are taken seriously and not given a token gesture to soothe the many who are genuinely concerned. Let's hope that vital funding is made available for many Australian community groups to rehabilitate and revegetate areas for long term benefits for future generations.

Explorers Cunningham and Oxley in the 1820s described forests of towering trees along our creeks. Many have since disappeared, in particular for city developments. Building applications and Environmental Impact Studies (EIS) are usually included with impacts on developments.

BCA entered the Upper Mount Walker Hillslope Erosion Project (UMWHEP) for the Premier's Sustainability Awards. The award recognises successful Queensland businesses, schools, individual and community groups whose actions and commitments protect the State's environment. BCA received a Highly Commended 2015 Premier's "Innovation in Sustainable Technologies Award". Well done Jocelyn, who had a major part in writing the application. The project Leader John Jackson hosted dignitaries from State and Local Government. Thanks John.

It will be heartening to receive some welcomed rain which will permit planting and revegetation on the UMWHEP site. To date plants have been sourced and will not take long to collect so BCA members can plant these on site. It is important to understand that BCA will make every effort to liaise more with Scenic Rim Council on a partnership program. It is envisaged that a small number of projects could be established which would encourage community involvement for this work to occur.

Recent sweltering temperatures have again highlighted the need for many folk to be prepared for the oncoming fire season. Removal of excess and *unmaterials* (e.g. debris) from around buildings can lessen risks associated with 'fire friendly areas'. Remember also many folk working outdoors make sure you "Slip, Slop, Slap". If we ensure our children do this surely we must acknowledge our own sentiments. Don't forget the need to drink plenty of water and remain hydrated as much as possible.

There have been good reports of a number of species of snakes on the move, so be aware of your surroundings when working or enjoying the great outdoors. Ensure you familiarise yourself with first aid techniques when it comes to snake bite. Where is the nearest first aid kit? Where is the nearest doctor etc? In many cases most snakes will retreat a little as they too have be disturbed.

Stay safe and drive steady on the roads.

Figure 3 Mikania

Class 1 declared plant: *Mikania micrantha* (Mikania)

Mikania is a multi-stemmed, perennial scrambling vine (fig. 3). Its leaves are opposite, 4–13 cm long and heart-shaped with a long, tapered drip-tip and 3 distinctive veins extending from the base (fig. 4). The petiole (leaf stalk) is 2–8 cm long. Stems are slender (<2 cm diameter), ribbed and covered in fine white hairs.

Flowering occurs between May and October. Each flower head is 4–6 mm long and contains four individual greenish-white flowers which have a mild, sweet scent (fig. 5). Seeds are small (1.5–2 mm), thin and black with 5-angled sides. Each seed has a tuft (pappus) of 30 or more white bristles 2 mm in length. Up to 40,000 seeds can be produced per plant per year.

Figure 4

Figure 5

If you think you have seen Chilean needle grass or Mikania growing in your region, please contact the Queensland Herbarium on **(07) 3896 9323**, email a photo to: Queensland.Herbarium@qld.gov.au or contact Biosecurity Queensland on **13 25 23**.

Figure 1

A new invasive species for Queensland and Australia: *Mimosa tenuiflora* (syn. *Mimosa hostilis*) (Brazilian jurema)

Brazilian jurema is a perennial shrub or small tree to 8 m (fig. 1) native to Mexico, South and Central America. It is a member of the Acacia family (Mimosaceae) and may be confused with non-native prickly 'Acacia' species in Queensland. Although not declared under the *Land Protection* (Pest and Stock Route Management) *Act* 2002, Biosecurity Queensland has recently assessed the species as high risk due to its potential to become an invasive weed in Queensland. Brazilian jurema has also been identified as a bio-security risk by the Northern Australian Quarantine Strategy (NAQS) and is a prohibited import into Australia.

Mimosa tenuiflora (Continuation)

Despite these restrictions, cultivated individuals of Brazilian jurema were reported for the first time in Australia in October at Kuranda, north Queensland. It is uncertain whether seeds were sourced illegally from overseas through the mail before being sold online within Australia. Further individuals of this species are likely to be found growing in Queensland.

Brazilian jurema is capable of forming pure stands in savannas and on rangeland floodplains similar to its close relative, *Mimosa pigra* (giant sensitive tree – Class 1), damaging grazing land, restricting stock movements, harbouring feral animals and threatening biodiversity. Much of Queensland's tropical savanna habitat could provide suitable habitat for Brazilian jurema.

Brazilian jurema has smooth grey-brown bark with reddish-brown young stems. Branches have large, curved spines (fig. 2). The compound leaves are fern-like to 5 cm in length. Each leaf has 15–33 pairs of leaflets 5–6 mm long (fig. 3). Inflorescences appear in spring to early summer and are spikes of cream coloured flowers with conspicuous stamens (fig. 3). The pods are initially green but mature to be reddish-brown and flattened to 6 cm long. Each pod contains 4–6 flat, oval seeds 3–4 mm in diameter.

Photos: Barbara Waterhouse (NAQS)

Figure 2

Figure 3

Tackling the major issue affecting waterway health

Through the Healthy Waterways Monitoring Program, our science experts have identified mud (sediment) as the number one issue affecting waterway health in South East Queensland.
The release of sediment from poorly managed construction and building sites is a major contributor of sediment in urban waterways.
During 2015 and 2016, Healthy Waterways will deliver a number of targeted programs to help minimise sediment pollution from construction and building sites. These include:

- increasing the capacity of local government, industry and community to improve Erosion & Sediment Control (ESC)
- delivering a business case and strategy for ESC
- working with builders to change habits toward ESC
- running targeted ESC workshops and events
- updating our ESC fact sheets.
- This work will draw on Healthy Waterways' prior research into the impacts and costs of erosion and sediment control.

Find out more about erosion and sediment control on the **Healthy Waterways website.**

Erosion & Sediment Control (ESC)

WSD 2015 was celebrated on the 4th of December

World Soil Day 2015—4th December

'Soils a solid ground for life'

On the 4th December we celebrated World Soil Day (WSD).
Soils have been neglected for too long. We fail to connect soil with our food, water, climate, biodiversity and life. We must invert this tendency and take up some preserving and restoring actions. It is celebrated particularly by the global community of 60 000 soil scientists charged with responsibility of generating and communicating soil knowledge for the common good.

The **World Soil Day campaign** aims to connect people with soils and raise awareness on their critical importance in our lives.

The **WSD 2015 was celebrated on the 4th of December** at FAO headquarters in Rome and FAO regional offices. National events were also be organized. The theme for this year was "***Soils a solid ground for life***".

Soil is inextricably linked to human and ecosystem health and crucial if we are to ensure food, water, and energy security for nine billion people by 2050. It sustains biodiversity – and if managed wisely – contributes to the mitigation of climate change.

Nevertheless, we continuously transform this resource in unsustainable ways. We lose an estimated 24 billion tons of fertile soil each year due to erosion. One quarter of the earth's surface is already degraded, which impacts 1.5 billion people today.

Many degradation patterns can be traced back to inequalities regarding access to soils and land tenure. Ways and means to overcome these inequalities are indispensable to sustainable and equitable development.

The year 2015 provided many significant opportunities to address soils on the international stage.

Did you know?

Soil is the basis for food, feed, fuel and fibre production and for services to ecosystems and human well-being. It is the reservoir for at least a quarter of global biodiversity, and therefore requires the same attention as above-ground biodiversity. Soils play a key role in the supply of clean water and resilience to floods and droughts. The largest store of terrestrial carbon is in the soil so that its preservation may contribute to climate change adaptation and mitigation. The maintenance or enhancement of global soil resources is essential if humanity's need for food, water, and energy security is to be met.

For more information go to: http://globalsoilweek.org

Prevention and Erosion Control of Earth Batters

An earth batter may erode under the action of wind or water causing sheet, rill, gully or slump erosion.

The erosion will result in:-

- Blockage of table drains and culverts
- Siltation of roads, footpaths, channels, dams and railway lines
- High runoff from bare areas can initiate gully erosion in depressions.

Another reason for preventing erosion in the batters is the aesthetic effect. Erosion is unsightly.

Factors affecting stability of batters

Stability of batters is affected by:-

A. Kind of material—rock, mixture of earth, percentage of sand or clay and type of clay. Whether cut or fill batter. Physical structure of the material.

B. Slope of Batter.

Economy usually demands that the slope of the batter be the maximum at which it can be stabilised. But steep slopes make stabilisation more difficult.

A general maximum figure for cut earth material is:-

Maximum slope - clay ¾ : 1 and maximum slope - sand 1½ :1

Fill batters generally reach a natural angle of rest but this can vary with moisture and settling.

C. Height of Batter

D. Environment

1, Climate—rainfall (amount and intensity)

2. Micro environment—aspect and seepage.

Use of Vegetation

The aim of batter stabilisation with vegetation is to obtain a rapid complete and permanent ground cover. The batter should be treated as soon as possible after completion of earthworks.

Requirements for plant Growth

Conditions suitable for plant growth must be produced. Plants need nutrients, water, light and air. The nutrients may be supplied by fertiliser but a layer of topsoil is a decided advantage. A cut batter may need finishing with 7-10cm of topsoil. A fill batter will often support plant growth without the additional topsoil, but finishing with topsoil is the surest way of ensuring that plants will grow.

Protected and unprotected slope

Casuarina

Secure your investment and insure your dam's eligibility for assistance

Farm Dams - Do's & Don'ts

DO secure your investment and insure your dam's eligibility for assistance under the QRAA Development Incentive Scheme by:

- Engaging an experienced engineer to investigate the site, design the embankment and provide plan and specification.
- Having soils classified by a qualified professional
- Ensuring appropriate construction procedures and equipment are used
- Ensuring your consultant inspects the site and checks your construction procedures so that the dam can be certified on completion.

DON'T let your farm dam fail because you:

- Did not compact the material for your dam properly
- Placed fill in the dam in thick layers
- Used dry, stiff soils as fill for the dam
- Used clods of soil in four fill
- Included layers of leaky soils in the dam
- Build the dam on low-strength soils
- Build the dam on fine-grained porous soils
- Used dispersive soils wrongly
- Used very steep batters on the dam
- Let erosion gullies develop across the crest
- Did not prevent beaching
- Allowed waves to spill across the crest
- Did not provide adequate spillway capacity
- Overfill your dam
- Did not provide collars on the pipework through the dam
- Allowed animals to burrow into the dam
- Grew trees on or near the dam

May your Christmas and everyday ahead sparkle with happiness and new surprises and have a healthy and

Prosperous 2016

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