BREMER CATCHMENT ASSOCIATION INC.

June 2014

around the bremer

Special points of interest:

- The Upper Mt. Walker Hillslope Erosion Project has been started.
- Invasive weeds are among the most serious threats to Australia's environment
- There are many different ways water can be treated.

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Presidents Message

Well the past few months have been quite busy for many of our BCA members. This note just serves as a short list of engagements I've been involved in over the past several weeks.

The inaugural Ipswich Enviro Forum was held recently on the 9th May 2014 at the Metro Hotel Ipswich International. This event showcased a number of community groups and local council members who are involved in caring for the environment (i.e. West Morton Landcare, SEQ Catchments, Bremer Catchment Association, Ipswich City Council).

Together with Bill Steentsma we networked with a number of people (and groups) shared 'like-minded ideas'. It's gratifying to know that the Bremer Catchment Association is in good company with these groups and share common ground on many fronts. We presented an overview of the BCA to a number of delegates during "Break-out Sessions". An interesting note was that other groups are finding it quite difficult to secure grants and essential funding to support projects for the community benefit.

During the past months I've been keeping in contact with our Upper Mt Walker Hillslope Erosion Project (UMWHEP) Leader Dr John Jackson. Work on the UMWHEP site is taking good shape and at the recent Operational Meeting Dr Jackson provided a project update. Over the next couple of months it is anticipated that a tree planting day will be organised and BCA members will be invited to lend a hand to revegetate the site.

I'm looking forward to visiting and meeting up with more of our regional BCA members over the next few months. Particularly on their own properties, as I believe it's good to discuss pertinent issues with such folk. It's good to 'eye ball' first hand the regional areas in which these folk reside and work in. Understanding what goes on in their part of the catchment and how relative these issues can be are essential points worth covering.

Stay safe and I look forward to meeting up with each and everyone during 2014.

Gary H Cochrane
President

North Ipswich Wetlands by Brian Pepperall

The creek after a shower of rain

There are still several hundred metres of stream to be treated with rocks and planted to achieve levels/ storey's of vegetation.

North Ipswich Wetlands is a corridor of parklands following the course of Tivoli Creek. Tivoli Creek begins near the Kholo Road crossing of the Warrego Highway and drains an area bounded by Pine Mountain Road, Waterworks Road, Holdsworth Road, Francis Street and Tantivy Road. It joins the Bremer River at the base of Tivoli Hill, downstream from Basin Pocket.

Originally the site of coal mining, which ended after the 1974 flood, it was initially developed as a drainage problem area, involving channel straightening, retention basins and overflow channels. Later it was equipped with play facilities, a barbeque and walkways. Federal funding helped do some initial plantings and landscaping,

For many years it was simply maintained (mowed, sprayed and whipper-snipped). A number of years ago an initial North Ipswich Wetlands community group did some environmental plantings. Bremer Catchment Association has joined with this group to further enhance the area.

The Association's aim is to turn the area into an exemplar of urban bushland regeneration with an emphasis on wildlife corridor functions, biodiversity and water quality. To this end, a number of areas have been identified as project sites. These sites will have the stream course stabilised with river rocks, gravel and sand into a series of pools and riffles. The coarse bed load will lead to great improvement in water quality and clarity. Immediate streamside vegetation of lomandra and gahnia are then planted, along with a corridor of eucalypt, melaleuca, casaurina, callistemon, lillypilly, acacia and hibiscus species as well as rain forest and open forest including hoop pine, callitris, brachychiton, native grasses, dianella, sarsaparilla vine, ficus, dodonaea, leptospermum, crinum etc. A number of native water plant species are now self seeding, as are many of the other plants

Benefits so far include almost non-stop annual water flow, excellent water clarity, increased occurrence of eels, crayfish, skinks and water dragons, and sightings of bitterns and kingfishers.

There are still several hundred metres of stream to be treated with rocks and planted to achieve levels/storeys of vegetation. In addition there are areas away from the stream to be dealt with. A number of areas beyond the designated parklands have potential to be integrated into the corridor and a large parcel of bushland on one of the tributaries has great ecological potential.

Ipswich City Council is showing continued support with plants and mulch, Holcim quarries has provided and placed river rocks. It would be great if other sponsors/donators could be brought on board because BCA would like to run monthly plantings in the area, but does need more help to do this.

The creek before the rock protection

Volunteers working and planting along the creek

Lantana Control

The best time to treat for control of lantana is from December through to April, although if conditions allow treatment can be as early as October or as late as July.
Recommended treatment is with Hotshot™ Herbicide using a foliar spray application at a rate of 500 to 700 mL/100 L of water.
This method can used in any Australian state or territory.
Lantana is a heavily branched shrub that can grow as compact clumps, dense thickets and as a scrambling and climbing vine.
The stems are square with small, recurved prickles along the edges.

The leaves are bright green above, paler beneath, about 6 cm long, with rounded, toothed edges. Leaves grow opposite one another along the stem.

Flowers appear most of the year in clustered compact heads about 2.5 cm in diameter. Flower colours vary from pale cream to yellow, white, pink, orange, red, lilac and purple. Many lantana forms are poisonous to livestock. The toxic components in lantana include the triterpene acids, lantadene A (rehmannic acid), lantadene B and their reduced forms. Most cases of lantana poisoning occur in animals newly introduced into areas where toxic lantana grows. Animals bred on such country rarely show signs of poisoning.

For more information see:

www.woodyweedspecialists.com.au

Lantana (Lantana camara) and creeping lantana (*Lantana montevidensis*) are shrubs that have been grown as ornamentals and are now major weeds in coastal and sub-coastal areas

Weeds in Australia

Invasive weeds are among the most serious threats to Australia's natural environment and primary production industries. They displace native species, contribute significantly to land degradation, and reduce farm and forest productivity. Australia spends considerable time and money each year in combating weed problems and protecting ecosystems and primary production on private and public land.

Invasive species, including weeds, animal pests and diseases, represent the biggest threat to our biodiversity after habitat loss. Weed invasions change the natural diversity and balance of ecological communities. These changes threaten the survival of many plants and animals as the weeds compete with native plants for space, nutrients and sunlight.

Throughout Australia, weeds are spreading faster than they can be controlled. All Australian states and territories have experienced native plant invasions. Nationally the impact of invasive plants continues to increase with exotic species accounting for about 15% of all flora. This figure is increasing by about 10 species per year.

A pretty weed

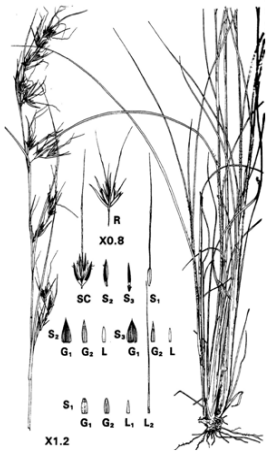

Figure 1.

Themeda triandra (Tothill & Hacker, 1996)

Like the fuel light flashing in your car, certain pasture plants can indicate when the 'fuel' in our native grassland communities is running low

Native pastures in the Bremer Catchment by Daryl Baumgartner

The use of native grasses by the grazing industry in the Bremer River Catchment underpins the importance of these plant communities to our economy. Whilst many of the grassland landscapes are suited to grazing enterprises, the long term productivity of these areas is reliant on a good understanding of country, the ability to see and hear what the land is telling us and the knowledge to influence the productivity of the land. One source of information readily available to landholders is provided through the presence and absence of certain grassland plant species.

Like the fuel light flashing in your car, certain pasture plants can indicate when the 'fuel' in our native grassland communities is running low or when we are running on a full tank. By taking certain actions, land managers are able to influence 'fuel levels' in their paddocks by managing for certain species and discouraging others. The careful use of fire, aligning fencing to land type and managing the duration and intensity of grazing pressures are some of the tools that can be used to influence the species makeup in grasslands.

The first two we will review includes the desirable kangaroo grass (*Themeda triandra*) (**FIGURE 1**) and the undesirable group of grasses referred to as wire grasses (*Aristida* spp.) (**FIGURE 2**). Kangaroo grass is recognised as one of Australia's most widely distributed grass species (Tothill & Hacker 1989). Mitchell (2002) describes the plant as a drought resistant, deep rooted, warm season grass that increases when regularly burnt in autumn and lightly grazed during colder months. If you have this species in your native grasslands it is a clear sign that the paddock is well managed and your tanks are close to full.

Wire grasses (or 3 awned grasses) on the other hand are frequently found in areas of low fertility with poor soil structure and low moisture holding potentials (even on good agricultural soils, certain land management practices can lead to a 'lock up' of fertility and declines in soil structure). Tothill and Hacker (1996) describe wiregrasses as being stemmy with little useful forage. When fruiting, the grass is easily identified by the barbed seed that carries 3 awned needle-like features. Paton and Rickert (1989) found that burning black spear grass (*Heteropogon contortus*) pastures infested with wiregrass in spring led to a *decrease* in wiregrass whilst burning in late summer and/or heavy grazing led to an *increase*. The presence of wiregrass can be a sign that your grassland fuel tanks may be running on empty and options to improve the production capacity may need to be considered.

Figure 2.

***Aristida* sp. (Tothill & Hacker, 1996)**

News Around the Ridges

Cat's Claw movie out now!

SEQ Catchments and its project partners Moggill Creek Catchment Group and Biosecurity Queensland have put together a short, three-minute educational video on the control and management of Cat's Claw Creeper, which particularly focuses on the release of the latest biocontrol to tackle this vine, the Leaf Mining Jewel Beetle:

Click here to watch! Or visit the SEQ Catchments website!

What do you value about South East Queensland?

How natural assets are looked after and used is important if South East Queensland is to remain such a great place to live, work and play. Provide your feedback online.

Visit www.naturalassetsseqyoursay.com.au and fill out a quick survey and go into the draw to win an iPad mini!

Pangola Grass

Pangola grass (*digitaria eriantha)* is extremely variable in form. It is a perennial that spreads from runners. Only a very limited number of seeds are viable. To propagate, runners need to be harvested and planted into prepared soil during damp weather.

Pangola grass is very productive on lighter soils but will grow on a large range of soil types. This grass competes well with African lovegrass and other weeds. It has a moderate tolerance to salinity, it is palatable and tolerates heavy grazing. Pangola grass responds well to fertilizer and is cut for hay in tropical areas. The average crude protein of Pangola grass is 9-20% .

Pangola Grass

Ryegrass (*Lolium)*

Ryegrasses contain some species which are important grasses for both lawns, and as pasture and for grazing and hay for livestock, being a highly nutritious stock feed.

There are a number of temperate climate grasses that do well in the South East Queensland during winter if there is sufficient rainfall.

Ryegrass, fescue, cocksfoot prairie grass and phalaris

are worthwhile to investigate, particularly if irrigation is available.

Ryegrass

Water Treatment for Power Plant Use

Scott Drysdale
Environmental Specialist – Swanbank Power Station

There are many different ways water can be treated, based primarily on what the water quality is to begin with and what the end product is to be used for. To determine if a water source requires treatment, samples should be taken and tested to determine suitability of use and if treatment is required.

At Swanbank Power Station, where I am currently based, Swanbank Lake is our primary water source. The Lake is influenced by rain and storm water runoff which can contribute unwanted water quality contaminants such as organic matter, nutrients, salts and algae. The two primary water systems which utilise Swanbank Lake both require treatment but in very different ways.

The first primary water system is the power station's main cooling water which is used to cool and condense the exhaust steam from the steam turbine, allowing the condensate to be cycle back to the boiler as feed water. This creates significant water savings. The main cooling water is cycled through the cooling towers where it is treated with acid and disinfectant (chlorination). The acid is used for pH adjustment. The pH is adjusted down to reduce the potential for calcium and magnesium scale build-up in pipes and fittings. The disinfectant is added to kill legionella growth in the cooling towers.

The second primary water system is the manufacture of demineralised water which is used in the power station for the filling of the boiler before start up and topping up the loses in the steam, condensate and feed water systems This water is treated by a three stage process. The first stage is media filtration which removes visible particles in the water such as sand or pollens down to a size of 10 microns. The second stage is microfiltration which removes invisible particles such as bacteria down to a size of 0.1 micron. The water from the microfiltration unit is then treated by a reverse osmosis and electro deionisation unit which removes 99% of all dissolved particles resulting in ultra-pure water. Ultra-pure water is required for the boiler and steam turbine system to prevent damage to the boiler tubing, steam / water piping and steam turbine blading.

The water testing and treatment processes at the power station are large scale and complicated, however they are necessary to ensure the water is fit for purpose. It is essential that there is an understanding of the quality of the source water and treated water to ensure health, environmental and asset degradation issues are avoided.

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Working together

Environmental constraints

The region experiences hot summer temperatures and frosts can occur from May to September. Average annual rainfall is about 800-900mm. There are 3 main soil types.

Deep Alluvials on the creek flats eg. Wilson's Plains supporting Blue Gums and occasionally Moreton Bay Ash.

Brown Clays/clay loams on slops eg. Rosevale, Mutdapilly and Peak Crossing with each area supporting some of these tree species: Narrow and Silver Leaf Ironbarks, Blue Gum, Moreton Bay Ash and Smooth Barked Apple.

Grey clays on slopes, eg. Roadvale/Kalbar supporting Brigalow/Soft wood scrub occasionally with Belah.

The relatively harsh environmental conditions can make the establishment of trees more difficult and narrows the range of trees suitable for planting in this region compared with other sub-tropical coastal areas which could be as little as 50 km eastward.

Disclaimer

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