BREMER CATCHMENT ASSOCIATION INC.

around the bremer

December 2018

Special points of interest:

Our next Meeting in 2019 is on 21st February 2019 Everyone welcome

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Have you all paid your BCA Membership for 2018/2019

President's Corner by Mark Edginton

In 1833, British amateur mathematician William Forster Lloyd wrote a pamphlet about a hypothetical situation in which unregulated grazing is allowed to take place on a town common. Each grazier has an economic incentive to maximise their use of the town common, but no economic incentive to limit their use of the commons for "the common good", with the effect that the town common becomes highly degraded. In 1968 Garrett Hardin wrote an essay which referred to Lloyd's pamphlet, and coined the term "Tragedy of the Commons". Tragedy of the Commons has come to describe any situation in which a common good becomes heavily depleted by competing interests because there is little incentive to act for the common good.

A catchment is, in many respects a common good. Bremer Catchment's 'D+' rating in its latest *Healthy Land and Water* Report Card could rightly be ventured as an example of a Tragedy of the Commons. However, we should feel encouraged by the growing awareness of and interest in catchment management generally, and the Bremer Catchment in particular. There was a time when there was no such thing as a catchment health report card - its mere existence is a recognition that catchment health matters, and it acts as a call-to-arms to bring about catchment improvement.

The fact that you are reading this newsletter, means that you are interested and concerned about the particular common good known as the *Bremer Catchment.* There are many ways in which you are contributing to the health of the Bremer Catchment. You know who you are, but you should know that the Bremer Catchment Association knows who you are, as does the Bremer River Network, the Ipswich City Council and countless other organisations.

You are the land care participant that puts plants in the ground and removes weeds. You are the organiser of the rehabilitation projects. You are the landholder who rehabilitates or conserves your part of the catchment. You are the provider of tea, biscuits and sandwiches. You are the advocate of Bremer Catchment, who writes letters and attends meetings. You are the secretary that writes minutes and newsletters. You are a Treasurer. You are a Vice President or Junior Vice President. You are the volunteer at a community nursery. You are the person who helps with grant applications. You help with websites. You are the wearer of a t-shirt that pronounces that "I hug trees", thereby robbing your detractors of the use of that phrase. You are even the person who simply goes for a walk in our newly rehabilitated parks, because your visible presence tells others that their work is appreciated..

AT AN EARLY STAGE IN YOUR PLANNING CONSULT PEOPLE WITH SKILLS AND EXPERIENCE IN CREEK REHABILITATION.

Continuation of President's Corner

And it is not just volunteers that we recognise, even though they hold a special place in our hearts. Everybody needs to make a living. You could have been "the butcher, the baker, the candlestick maker", but you chose to make your living by being an environmental professional. You grow crops or run stock in a way that takes account of catchment health - because we all have to eat. You are a bush land labourer or Council parks maintainer. You are a weeding contractor. You are a town planner. You are an environmental consultant. You are a landscape gardener. You are the urban designer who works at including environmental protection in new developments - because we all have to live somewhere. And there are many more of you who make a difference.

You are a custodian of 'the Commons'. A custodian of Bremer Catchment.

Thank you one and all.

Planning Creek Projects by Alan Chenoweth

Every project is different and there is no standard blueprint for whether to plant natives or exotics, what to do about weeds and undergrowth or how to combat siltation and erosion. The answers depend on many factors outside your control, and must be compatible with overall stream and catchment management. For instance, in flood prone areas with vulnerable residential development, the main stream channel should be maintained free of obstruction to flood flows; bur further upstream the objective may be to retain flood waters by tree planting, parkland retention basins and stream-bed treatment in flood plain.

At an early stage in your planning consult people with skills and experience in creek rehabilitation. These include ecologists, and landscape architects, botanists and nurserymen, hydrologists and civil engineers and a growing number of people in community conservation groups.

Creek restoration projects are long term projects, so be prepared to wait patiently for the results of your efforts to become apparent. A small project, successfully carries out and looked after for a number of years is far better than a grand scheme which did not come up to expectations and was abandoned.

Involving Local Residents

Talk to people! Discuss your vision for the neighbourhood creek with local residents. Inform them of your plan by leaflets, personal visits or phone calls. Invite them to become involved in planning the project, perhaps at a meeting at someone's home.

Be very clear about the project, its benefit and likely success. Take a fairly well-planned proposal to the community but be prepared to modify the plans in response to suggestions.

If some people for example, that Wattles will aggravate their asthma it may be possible to change to an alternative plant. The creek belongs to the entire community.

The Future of Food Production

By Charles Orton-Jones

The future of food production lies in our ability to exploit every resource at our disposal, from bots to bees.

Food production needs to increase by 70 per cent to feed the nine billion population projected for 2050. Fortunately, the industry is benefiting from some radical thinking. Here are the cutting edge technologies taking farming towards this goal.

Here is just one example of many possibilities.

Bees as micro-distributors of pesticide

Bee Vectoring Technologies (BVT) is a Canadian start-up which has developed a commercial alternative to spraying food crops with pesticide. This innovative new method uses bumblebees to distribute a naturally occurring, organic, inoculating fungus while carrying out their natural foraging cycle.

The BVT system makes commercially reared bumblebees through a specialist tray dispenser as they leave their hive. They brush past a powder which clings to their fur. The powder is a naturally occurring fungus named clonostachys rosea which, when absorbed by a plant, enables it to effectively block destructive diseases, such as botrytis, in strawberries.

The process has many merits. It reduces or negates the need for spraying pesticides, thus preventing chemicals entering the water supply.

In a large-scale trial in Florida it delivered comparable or improved disease protection over sprayed chemicals, as well as increasing fruit yield by between 7 and 29 per cent. This fruit was independently shown to be sweeter and had a longer shelf life.

In a recent trial on blueberries in Nova Scotia, yield increases were recorded at 77 per cent. **And the bees, of course, are entirely unharmed.**
For more information:
https://www.raconteur.net/sustainability/the-future-of-farming-robots-worker-bees-and-plant-jacuzzis

Food production needs to increase by 70 per cent to feed the nine billion population projected for 2050.

Arrival of the Robot Army

We all know the robots are coming to automate farming. But the extent of the progress being made may surprise farmers.

Projects such as the **'Hands Free Hectare'** have shown that barley can be grown entirely without human interference. A PhD student at King's College London has developed the **Growbot,** which lets farm workers with no technology skills program it to perform manual tasks. The project has ongoing funding from the Agriculture & Horticulture Development Board.

In the dairy industry, Universal Robots makes a robot arm able to automate labour-intensive tasks such as manually disinfecting cows' udders before and after being milked.

Perhaps the trickiest area is fruit picking. Rosberg Green House is utilising a universal robot gripper to pick herbs and flowers. The two **"fingers"** of the robot gripper have built-in intelligence and advanced technology that mimics the way humans instinctively use our sense of touch when we grab things to move them. This means that the delicate produce is not harmed during this process.

Also worth mentioning are robots made by **Autostix** and **ISO** Group, which are able to take cuttings. At the current rate of progress, automated farms could be mainstream within the next five years.

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A Robot Picking Tomatoes

TO ALL BCA MEMBERS AND FRIENDS

Media Statements
Minister for Agricultural Industry Development and Fisheries
The Honourable Mark Furner

Eradication Program Rounds Up Weeds

Biosecurity Queensland's war on weeds has chalked up a significant victory with 21 species of high-risk weeds having been eradicated from around the state.

Minister for Agricultural Industry Development and Fisheries Mark Furner says Biosecurity Queensland officers, working in close partnership with local governments and other agencies, have pushed another 16 species close to complete eradication.

"Of the eliminated species, 15 were detected while still restricted to gardens whilst the other six species had established very small populations.
Pressure is being maintained on another 16 species that appear on-track for eradication, with surveillance conducted annually to destroy remaining plants and deplete the soil seed-bank."

High-risk targets include Karroo thorn and other non-native acacia species, all species of horsetails, bitou bush, Mexican feather grass and tropical soda apple.

Mr. Furner says on-going surveillance for eradication targets was vital in protecting Queensland's biosecurity and $19 billion agriculture industry.

"There is simply no room for complacency in the fight against high-risk weed species as the risk of re-introduction and undetected incursions remains."

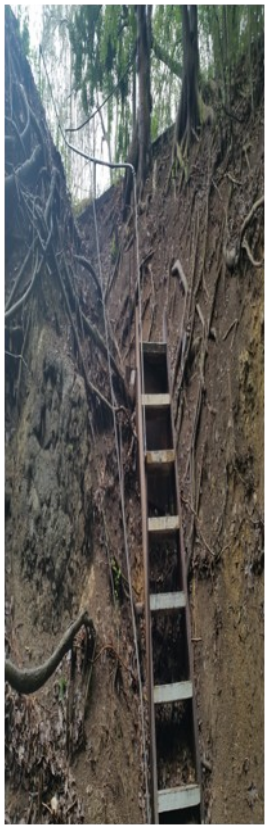
"Traditional and innovative surveillance techniques are being employed to help detect weeds much earlier than previously which improves the chances of eradication."
"Members of the public can also play a vital role in eradicating weeds by immediately reporting sightings of unusual weeds or plants to **Biosecurity Queensland on 13 25 23."**

Mr. Furner says on-going surveillance for eradication targets was vital in protecting Queensland's biosecurity and $19 billion agriculture industry.

Waterway Restoration along Bundamba Creek

By Terry and Bernie Mascord and Frank and Elena Moeller

(All BCA Members)



Steps to get to the creek-bed

Erosion control now is a major part of our work as is weeding and re-planting as the banks are very steep.

Bundamba or originally 'Bundanba' in the aboriginal language meaning stone axe "bundan" and place-of "ba', "place of stone axe". Indeed our creek edge holds some interesting geology as it contains breccia a sedimentary probably volcanic conglomerate with inclusions.

The regional ecological system along the creek is 12.3.7 (Rainforest type) is basically not existent at all in the lower part of the creek. However a few remnant trees still are lining the creek with Red Forest Gum or *Eucalyptus Tereticornis.* Understorey has been replaced, due to logging in the past, with Chinese Elms *Celtis Sensis* and other weeds like Morning Glory Vine, Balloon Vine, Mulberry and many other weeds in the lower part of the creek. Replanting along the Bundamba Creek in recent years has re-established some areas but a lot of work still needs to be done almost everywhere.

The creek banks were a rubbish dump for recent occupiers and overrun with Chinese elms, Lantana and Prickly pear and so forth. The removal of rubbish and clearing of Chinese elms etc. has been a major job. More than 2.5 ton were removed on Frank's site alone.

Since the partial removal of the Chinese Elms the appearance of Red Kamala's *Mallotus Phillipensis*, Sandpaper Figs *Ficus Coronata*, White Cedars *Melia Azerdarach* and Blood Vines *Austrosteenisis blackii*, *Pittosoorum undulatum*, Maidenhair fern and Rough maidenhair fern has been a pleasant surprise.

Erosion control now is a major part of our work as is weeding and re-planting as the banks are very steep. We are planting heavily with Lomandra's, native trees and shrubs to encourage bees, butterflies and birds and to maximise soil retention on the banks. It's a slow process but with every week there is a small improvement. Frank and I have both hosted a planting day and many plants were put into the ground. We are very grateful for the people who have attended and we would like to express our thanks to those extra hands on the day.

Our Fauna: In Frank's few Eucalyptus trees Pale Headed Rosellas, Lorikeets and Galahs are nesting. native bees have taken shelter in a cavity of one of the Red gums. There are also Black ducks, Wood ducks, Water Hens and one stray white goose. The Wood ducks at one stage had 8 ducklings but over time they disappeared. Lizards and Water Dragons of varying colour and size, snakes, Bandicoots and Common Planigales are present. Our creek is tidal and at various times Mullet, Bream, and small Rainbow fish can be seen on the surface, one Shark was also spotted. Water quality is questionable as a dead horse has been located, lots of plastic containers are constantly flowing down the creek and apparently sulphates too and the recent water testing which indicated some contaminants from fire extinguishers aren't that confidence inducing.

However in saying that we love what we do and we continue to do what we do even though we are playing only a very small part in the improvement of the creek but if many people do many small things maybe one day the Bremer and its many connecting streams will return to a healthy waterway.

Paralysis Ticks by Gary Cochrane–BCA Member

Introduction

Paralysis Ticks (*Ixodes holocyclus* Neumann [1899]) are transported effectively by many native bushland animals (e.g. wallabies, possums, bandicoots, rodents). Such native animal's frequent areas where *I. holocyclus* are active, before migrating towards human habitat and domesticated animal enclosures. This effectively brings the Paralysis Ticks into contact with human population and domesticated animals.

The main issue with *Ixodes* Ticks is their ability to inject venom into the host animal. This venom is quite toxic and left untreated in some domesticated animals (i.e. humans, cattle, horses, dogs, cats, poultry, guinea pigs), can cause severe poisoning leading to eventual decline in health and finally death.

Lifecycle

With a distinctive three (3) stage life cycle, *I. holocyclus* have adapted their development and survival habits to blend in well with available food resources. Adult female *I. holocyclus* deposit their eggs in grassland and bushland environments. Newly hatched ticks (six legged larva – 1st stage) then search for a food source (blood meal) on host mammals (or birdlife). These larva become engorged with blood, before falling off to undergo a morphological development.

These newly developed ticks (eight legged nymphs – 2nd stage) then seek out other host animals in which to obtain another blood meal. Once this feeding has been completed, engorged nymphs then fall off the animals, before completing their final morphological development.

As an adult *Ixodes* Ticks, *I. holocyclus* then quickly seek out another host animal in which to attach itself and begin blood feeding. At this stage mating usually takes place and female *Ixodes* Ticks are then able to begin egg laying. Figure 1 shows how the Paralysis Tick lifecycle and development occurs.

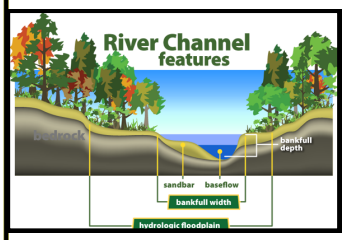
Control Strategies

In an effort to control *I. holocyclus*, particular strategies designed to lessen the attractiveness of ticks around human populations and domesticated animals are strongly recommended. These non-chemical and chemical methods can be implemented to reduce tick infestations.

Non-chemical methods include reducing native animal and tick harborages such as long grass must be removed from around the property. Therefore in restricting these 'tick friendly harborages' such methods significantly limits the ability for many ticks to infest around domestic and urban dwellings. Deterring these native animals from around human association will also assist in reducing *Ixodes* ticks. Regular inspections of animals (cattle, horses, dogs, cats) for Paralysis Ticks are always advisable. When located, *Ixodes* ticks can be removed successfully (Tick removal tool) and the animal managed for a full recovery.

Chemical methods include an application of products (i.e. approved chemicals) which can be applied to control ticks. These chemicals are applied to areas where animals frequent, often collecting developing *Ixodes* Ticks. In addition there are products available from veterinary supply outlets, which are used in the treatment of animals such as cattle, horses, dogs and cats.

Image of Paralysis Tick (*Ixodes holocyclus*) lifecycle (courtesy of Bayopet).



South East Queensland, let's catch up!

Community Forums will be held following the release of the 2018 River Report Card, an annual assessment of the pressures facing our waterways, their current environmental condition, and the level of social and economic benefits waterways provide to local communities.

We're hosting four Community Forums across South East Queensland (SEQ) providing you with the opportunity to join a roundtable discussion about the Report Card results, the implications, local observations and issues, and initiatives underway to address them.

The Forums will be held between late November and mid-December and will also allow you the chance to share and discuss past and current projects in your region and raise opportunities for future projects.

Our experts will also discuss how they'll be undertaking an upcoming review of the SEQ Natural Resource Management Plan. There will also be discussion around the 2019 National Landcare Program.

Register your attendance by clicking on the forum most convenient for you. Or, you're welcome to come along to all!

Dates and venues of the December Meetings are as follows:

Brisbane: 10:00am – 1:00pm Tuesday 11 December – Downfall Creek Bushland Centre – *Facilitated by Karen Toms*
West: 1:00pm – 4:00pm Thursday 13 December – Laidley Sports Complex – *Facilitated by Mark Waud*

The Bremer River Catchment Vision:

- *Keep soil on our land and out of our waterways to support agricultural productivity and improve water quality.*
- *Help protect our region's water security so it can support the current and future population of SEQ.*
- *Improve the climate resilience of our region.*
- *Promote partnerships with strong leadership to deliver a coordinated approach to catchment management in SEQ.*

Disclaimer

While we hope that you will find this publication informative , BCA does not guaranty that the information herein is without flaw, or is wholly appropriate for your particular purpose. We therefore disclaim all liability for any error, loss or other consequence , which may arise from you relying on any information in this publication

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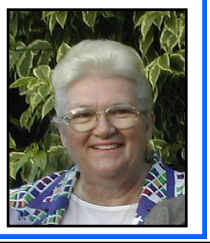
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