

MAY/JUNE 2009  
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MISSION BEACH  
**BULLETIN**



**INSIDE:**

- Fencing — an issue
- Council approves higher density development
- C4 cassowary sighting survey
- Rising Sea Levels
- Regional Gallery Cassowary Exhibition

*Mission Beach is special - you can help keep it that way*



# C4 Update

Cover Page—Painting ‘Refugees’ with thanks to Margaret Genever

- 2 C4 Editorial
- 3 School Visits, The Display, The Cassowary Trail
- 4 Nursery/Arboretum & What’s Flowering Now?
- 5 Park Report, Scat Analysis, Information Centre News
- 6 - 7 Fencing & Bio diversity Conservation by Dr David Westcott. Bingil Bay meeting
- 8-9 Habitat Matters
- 10 Djiru Country
- 11 Cassowary Trail Artists Statements
- 11 Rural Rave. Dad and Chicks Return
- 12 -13 Rising Sea Levels— Preston Clothier
- 14-15 Confessions of a Beach Comber-Flotsam Research
- 16 Where the Wild Things Really Are by Sal Badcock
- 17 Update—Visual Amenity Advisory Group Poem by Susan Hawthorne
- 18-19 Position Vacant by Russell Constable
- 20 Mission Beach - High Biodiversity Quest for Green Concrete
- 21 This is Cassowary Country
- 22 Garners Beach update
- 23 Native trees in fruit
- 24-32 Community information Advertisements

## “Have you seen a cassowary lately?”

That one small question evokes an enthusiastic response from the many visitors and locals in our area who are eager to share their experiences. The feedback and information gained by having a stall at the Mission Beach Village Markets every first and third Sunday of the month is invaluable and often reassuring.

It helps us understand more about our environment so we can make informed comment to the relevant authorities who manage our area.

There were more than a couple of comments from those who are saddened to see the loss of natural areas, but overwhelmingly, the C4 stall was kept busy by people eager to tell their story of why they were here - and there was more than a story or two about cassowaries.

***“It doesn’t matter how many times you see a cassowary it makes you stop and watch in awe until they have gone”***

‘We came to Mission Beach because of its beauty of the rainforest and the beaches and the wildlife. Especially cassowaries’

***“We came here because it is so beautiful and we had no idea there was a place in the world where you could still see wildlife we thought only existed in zoos”***

‘It’s such a wonderful place to teach children to have respect and protect our environment’

Any complacency about where we live is dispelled by such comments.

C4 is in the process of updating their cassowary sightings data base. We are seeking members of the public who wish to participate in collecting information and photos in their immediate area and personal sightings elsewhere which will give a better knowledge of identity and movement of the birds.

The area from the Hull River to Muff Creek extending to the Bruce Highway will be separated into study areas and we need volunteers in strategic points within each study area to maintain a diary. CSIRO will be advising us on the design of the data base so it is consistent with data being collected by other agencies and organisations. If you would like to become involved in this ongoing data base please register your interest by calling 4068 7197.



Mission Beach is a sanctuary, we must treat it that way for our future generations.

A special thank you to Tara for all her work on the past editions of the Bulletin and we wish Mike and Tara all the best with *their* new ‘edition’!

The C4 Management Team

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### School Visits

As part of C4's commitment to education, volunteers at the centre recently had the pleasure of hosting visits from two groups of children attending local Primary Schools.

On Friday, March 20th, a group of 7-8 year olds from Feluga Primary School arrived with their teacher Julie. Exploring the theme of seeds and germination, Nina took the group seed collecting, in the Arboreteum and along the beach. These students then viewed the Nursery and under Nina's supervision, planted the collected seeds in seed trays. After viewing a Cassowary video in the Theatre, Sal completed the children's visit with a tour of the display and an informative discussion of wildcare featuring

Annie, Sal's Striped Possum. The Agile Wallabies being cared for by Julie and Nina were very popular features of this discussion. As a farewell gift, C4 presented each child with a native plant for their school garden.

Carmen from the Mission Beach Primary School arrived with her group of excited 4-5 year old students on Wed 25th of March. On the theme of "Why Mission Beach is Special," the group viewed a Cassowary video in the Theatre, took a tour of the Nursery and Arboreteum and completed their visit with an entertaining talk by Sal in the Display about the special animals and birds of Mission Beach. The stars of the wildcare show were Annie the Striped Possum and Jack the Metallic Starling.

### The Display

The refurbishment of the display commenced in mid March and is progressing well. Unfortunately, due to water damage, we have had to do more extensive work than originally planned, but the end product should endure for years.

We are using as many local businesses as possible and our volunteer carpenters and painters are doing a superb job which has kept costs down considerably.

The centre will be open in a few weeks when we will again be able to provide a wonderful and improved environmental and educational centre for Mission Beach. The official opening will be in early August to coordinate the 20th anniversary celebration of the modern Mission Beach conservation movement.

The revamp has been made possible by donations from WTMA and the Bokhara Foundation.

Our cleanup in the centre has continued, and we are now working more efficiently and can apply ourselves to the appropriate areas and work, according to the charter of C4.

You are very welcome to visit and check the progress both out the front and the back of the premises and join the enthusiastic team for a cuppa.



### Invitation to the opening of the Cassowary Discovery Trail

Mission Beach will have three new features from the 22 May. A series of three artistic installations will be launched by Cr Jennifer Downs. The installations highlight environmental, indigenous, cultural and historical issues relating to our endangered cassowary.



The Cassowary Discovery Trail is a series of permanent

contemporary sculptures designed and produced by local professional artists. The project funded through

Queensland Arts art+place program, was designed to encourage three local artists to collaborate with other artists and community groups to develop and produce three works related to the cassowary.

The works include "The Great Cassowary Game", a giant board game by Sally Moroney, a contemporary piece by Joy Fitzsimon is titled 'Djiru Dreaming' and 'Entwined' a moulded glass and mosaic piece mentored by Judith Bohm-Parr.

**Date 22 May**

**Time 4:30 Drinks and nibbles for 5:00 Official Launch At C4 Theatre, Porter Promenade Mission Beach**

To attend the opening, please call;  
John Edwards on 4068 7077



# Nursery/Arboretum

It's been a very busy few months in the C4 Nursery. Every week, we have had more and more volunteers coming into the nursery to drop off and plant native seeds, pot up the seedlings, weed, and plant trees in our local area. And it's thanks to all these volunteers that we have nursery full to the brim of local native plants ready to plant in your garden or on your property.

We also have had a great visit by the kids from the Feluga School, (see page 3) who were on excursion learning about plants and animals in their local area. We went for a walk in the arboretum and then on the beach looking at plants, fruits and seeds from local native trees and shrubs. They then planted the seeds that they collected on our walk, in seed trays in the nursery. It was great to see how interested and keen the kids were, to learn more about the trees and fruits they recognised from their own backyards.

Working with the CCRC Revegetation Unit, C4 volunteers and community members have been planting out sites at Wongaling Creek, North Mission Beach and Bingil Bay. We planted trees along Wongaling Creek, behind Marcs Park to help extend and widen an important cassowary corridor. Volunteers have also joined with the Council to plant out the coastal zone at North Mission Beach and at Bingil Bay. By planting out these coastal zones, we are helping to restore important coastal vegetation, therefore protecting the coast and reducing coastal erosion. It's great to see the community getting involved in repairing and preserving our precious Mission Beach environment.

It feels great to be planting trees that we have grown from seed in the nursery, and to be doing something positive for our fragmented local environment. Mission Beach is an important place where we have a number of special forest types and plants which are remnants of once vast areas of coastal wet tropical forests.



One of the special forest types found here in Mission Beach is Littoral Rainforest and Coastal Vine Thickets. This type of forest is found at the Clump Point area and is listed under the Australian Government's Environmental Protection and Biodiversity Act, as a critically endangered ecological community. This forest type provides habitat for over 70 threatened plants and animals and provides an important buffer to protect coastlines from erosion and wind damage. Any removal of this vegetation will incur heavy fines. The Littoral Rainforest and Coastal Vine Thickets in our area are important, as this type of vegetation is extremely rare and fragmented.

## **FLOWERING NOW – The Pink Flowering Guest tree -*Kleinhovia hospita***



Many of you may have noticed the beautiful pink flowering tree on Cassowary Drive near the childcare centre and along the road at Clump Point.

This is quite a special tree called the Pink Flowering Guest Tree (*Kleinhovia hospita*). This tree is only found in a few places on basalt soils in the Wet Tropics of North Queensland, throughout tropical Asia and in Papua New Guinea. The Pink Flowering Guest Tree is a beautiful ornamental tree with its profuse

pink flowers. It is an evergreen tree growing to about 20m with a dense rounded crown and upright pink sprays of flowers and fruit.

The Clump Point area, being the only place in the Wet Tropics where the basalt soils reach the sea, provides perfect habitat for the Guest tree to bloom, so we here at Mission Beach are one of the lucky ones to have this beautiful tree.

The Pink Flowering Guest Tree has many uses. I am not aware of any uses by the local North Queensland Aboriginal people, but in Asia and PNG it is used for fibre, medicine, food and for other products.

The fibrous bark is used for rough cordage and the young leaves are eaten as a vegetable. The juice from the leaves is also used to make an eyewash. In Papua New Guinea a preparation from the cambium is used to treat pneumonia. The leaves are also used as a hair wash to get rid of lice. The leaves and the bark contain cyanogenic compounds that are assumed to help kill ecoparasites such as lice.

Extracts from the leaves have shown anti-tumour activity against sarcoma in mice (All of these remedies would require special preparation and I do not guaran-

that they are totally safe for everyone!!) The straight branches of the tree are also used as house rafters.

What a useful plant! It makes me think how little we know about the plants that we live amongst and that are being cleared everyday for insensitive development. What plant medicines, food and materials have we lost already due to our lack of understanding about the values of the rainforest?

We are now collecting seeds from this tree for propagating, so bring in any seeds you collect for our volunteers to plant. In a few months we will have rare plants available for sale at the nursery.

Visit us and become involved in growing native plants to revegetate and help Mission Beach's long term recovery.

Nina

### Ross Overton Park/Norm Byrnes Arboretum

C4 asked me to prepare a report on progress in the Arboretum. Actually there's little new to say since the last report. I'm continuing to fill out the under-storey with new plants and gradually extending my efforts northwards from the Arboretum.

The Council reveg unit has begun planting at the Clump Point end and will continue moving toward the Arboretum. I assisted them in the last plant-out but more work still needs to be done. It would be good if some residents from North Mission could be among the assistants at the next session.



Anyone interested in helping out, please leave your contact number at the C4 front desk. Many thanks.

Bob Jones—Park Manager

## CSIRO conducts third cassowary scat survey

**Where are the cassowaries?  
How many are there?  
Where do they go?**

These are the questions being asked as CSIRO conducts a cassowary scat DNA analysis. Another successful collection day was held on Monday 5th May.

Volunteer involvement reinforces community commitment to help secure the future of the cassowary in the wild at Mission Beach.

Many thanks to all those participating in this very important survey.



### Mission Beach Visitor Information Centre

These past few months have been an exciting time at the Centre with the launch of the new Mission Beach branding and brochure showcasing our beautiful region. We have several new volunteers this past two months; welcome to Lorna, Kim and Stephen.

Visitors are fascinated by the 'Entwined' Cassowary display at the entrance to the car park which is part of the new Cassowary Discovery Trail. We watched with fascination the progression of the work over several weeks of industrious activity. The finished product is a credit to those involved and an excellent addition to the property we share with C4 and now Mission Beach Artists.

The recent seemingly constant rain has been a blessing to allow the plants in the display to take hold for the dry season.

Of course our visitors are not too happy with the rain but a pep talk about how fabulous it is to experience a walk in the 'rain' forest usually encourages them to make the best of it. And that is part of our job in the Visitor Centre; we help people to see our beautiful region from different perspectives. We educate, inform and serve our visitors simply by sharing information about a place we are all passionate about. It is the best 'job' in the world.

Sue Wickes – Tourist Information Officer – Mission Beach Business & Tourism

# Fencing and Biodiversity Conservation

A view by  
David Westcott and Adam Mc Keown edited by Liz Gallie

## ***The purpose of fencing is to prevent movement***

To exclude or contain threats from biodiversity values/to exclude or contain biodiversity from threats

Movement is a fundamentally important sustaining process in ecosystems. It allows for exploitation of dispersed and varied resources. The movement of organisms constitutes colonisation, immigration and emigration, the basis of population processes. Movement results in geneflow, influences health and evolutionary trajectories and results in dispersal and pollination.

another example where collisions along 6 km of highway represented 26% of mortality. The introduction of 2.6 km of fencing, underpasses and deer guards reduced intrusion by deer onto road, reduced collisions by 73% –100% in fenced areas but collisions increased by 40% in unfenced areas. Overall the reduction in collisions was considered a success although an unexpected consequence is that it moved the issue to non-fenced areas.



Fencing *can* meet its aims. Dingo fences in Australia have resulted in lower populations within the fence and the reduced loss of sheep. However, kangaroo and emu populations on either side of the fence show very different dynamics. Both are lower outside, on the 'dingo' side where populations are predator limited and show reduced fluctuation and lag-responses to environment whereas populations inside are resource-limited and fluctuate according to forage abundance.

Ecosystems processes are defined by movement - mess with movement and you mess with the health & future of an ecosystem.

Containing biodiversity prevents retribution such as the exclusion of elephants and badgers from agriculture and the exclusion of reintroduced predators from human activity such as wolves and bears in the US. Fencing of highways reduces mortality eg for deer, moose and cassowaries and interaction in urban areas eg bears and cassowaries. It defines management areas for parks and reserves around the world.

An example of containing biodiversity is the introduction of fences for moose in Sweden. which reduced crossings per day by 67-89%, reduced collisions and reduced movement despite the presence of wildlife crossing points.

Although the fences met the immediate goal the long term impacts expected in terms of changed patterns of resource use, reduced geneflow, and resulted in less resilient populations.

Highway fences for Florida Key deer presents

In achieving a focused conservation goal, fencing is accompanied by unintended effects. These effects may accrue elsewhere in the ecosystem. The adverse effects of fencing include blocking of access to resources resulting in mass ungulate mortality at Veterinary fences in Africa (Beale 2003), mass roo mortality at the dog fence when rain is restricted to one side (Caughley et al 1987), and are of particular concern during extreme events, e.g. fires, cyclones floods, drought.

Fences have affected migration and reduced population in zebra (Owens& Owens 1985), modified migration of elephant and ungulates in the Kalahri (Engelbrecht 2004) and prevented elephant immigration resulting in population increase (Hayward et al 2009).

By excluding predators the dingo fence removed predator-limitation of foxes and cats resulting in mid-size marsupial reductions (Dickman et al 2009). Predators can also use fences and fence lines as vantage points or for their prey funnelling effects (Van Dyck & Slotow 2003).

Direct mortality through collision and entanglement are of concern. Collision with fences for flying and terrestrial species is a worldwide problem. Fences cause entanglement for roos, emus, cranes, bustards, cassowaries etc in Australia.

Indirect effects of fencing include;

- Non-target impacts
- Consequences of reduced movement
- Change predation
- Modified population processes
- Modified resilience in populations or ecosystems
- Reduced colonisation & dispersal

Fencing can be expensive, costing up to \$12,000/km with on-going maintenance needs.

Appropriate fence design would seek to minimise unintended consequences, ensure effectiveness, manage surrounding areas to ensure effectiveness and consider visual amenity.

Some of the questions to be considered when introducing fencing are;

- Will the conservation benefit be realised?
- What are the non-target biodiversity effects likely to be?
- Do the biodiversity benefits outweigh the biodiversity costs?
- Is the construction appropriate?
- Can it be upgraded?
- Is long-term maintenance planned for?
- Are there other solutions?
- Is access to key landscape features (fruiting trees, watering points etc) likely to be impacted?
- Should fencing be added to gain approval or should developments be designed to avoid fencing?
- One size won't fit all – different contexts will need different fences
- Does fencing enhance the other important values of an area?

In a recent review of fencing for conservation Hayward and Kerley (2009) made the following conclusions:

- The costs of fencing outweigh their benefits on average.
- Despite this fencing has a place in conservation
- Fencing for conservation is an acknowledgement that we are failing to successfully coexist with and, ultimately, conserve biodiversity.
- In the long-term fences may prove to be as much a threat to biodiversity as the threats they are meant to exclude...they should be considered a short-term solution that buys time.  
(Hayward and Kerley 2009, Biological Conservation 142: 1-13)

*"Perhaps we are failures at living with biodiversity but perhaps acknowledging that and putting fencing in place to minimise the impacts of our failings is simply a pragmatic response."*

## *Consensus for Bingil Bay picnic area*

Around 40 Bingil Bay residents turned up for the onsite meeting with CCRC acting Parks Manager Paul Devine and Councillor Jennifer Downs to discuss the upgrade of the picnic area.

An artists impression of the upgrade following a similar meeting in June last year was displayed at the Bingil Bay store for comment. The overwhelming response to the plan was that it was too elaborate and did not reflect the low key style envisaged by the local community. The artists impression was created in Townsville. It was questioned why it had not been offered to a local business and comment was made about the misspelling of the name which read *Bingal* Bay. There was a strong consensus that the picnic area should retain a natural setting. It was agreed that it would be good to replace the paving but keep the present ground level and perhaps incorporate into it a creative component.



The local community at Bingil Bay are proud of the natural environment of their neighbourhood and the only needs for an upgrade for the picnic area were a gas barbecue, fire pit, extra seating and a small timber shelter along with some planting of more native vegetation.

A more important issue of road safety was raised, one which has been highlighted to council by the Bingil Bay community over many years, particularly for children walking to the area and the need to cross the road to access the toilet block. There was a call for the road to be part of the overall design to slow traffic from the Bingil Bay Store through to the Bicton Hill walking track.

The money set aside for the upgrade is a post cyclone Larry grant for remedial work on the picnic facility and apparently needs to be spent by the end of May this year. With the design going back to the drawing board the grant will be lost.

Paul assured the group that money was not an issue and that it would now simply come out of Council allocated funds and Bingil Bay residents will be contacted when a new plan is drawn up.



# Habitat Matters

## Sustainability?

There have been nine developments listed as 'controlled actions' under the Environment Protection Biodiversity Conservation Act (EPBC) at Mission Beach in the past 12 months.

Such a high number should trigger a 'strategic assessment' as provided for under the Act. Despite the recognition of the need to manage development at Mission Beach to ensure the recovery of the endangered cassowary, so far the federal government has failed to act.

The 'Clearly Unacceptable' decision by the Federal Environment Minister on a development which would require the destruction of remnant vegetation was welcome but the landholder can still lodge another application. Until the wide 'survey' tracks were cleared on Lot 66 the block was undisturbed.

To date there is no law prohibiting the removal of vegetation listed as 'not of concern' from a private block of land prior to development applications if it has not been brought to the attention of the Department of Environment, Water, Heritage and the Arts (DEWHA). Once cleared, the land is assessed as cleared.

All the vegetation in the foreground of the photo below is within the urban footprint in the 2031 plan and is largely unprotected.

The EPBC Act guides assessment of the impact a development may have on a matter of national environmental significance i.e. World Heritage areas or endangered species or ecosystems. It must be proven that a development will have a significant impact before conditions will apply but there is no definition of 'significant'.

Mission Beach is a high biodiversity area surrounded by and encompassing two world heritage areas i.e. the Wet Tropics and Great Barrier Reef, and supports many vulnerable, endangered



and critically endangered species and ecosystems. All roads to and within the Mission Beach area intersect cassowary habitat so **any** development, by way of traffic alone, will have a *significant* impact.

It is a glaring shortfall in the EPBC Act that the cumulative affect of development cannot be taken into account. It is also a glaring shortfall that the essential habitat of an endangered species is only afforded partial protection even though all habitat whether endangered, remnant or regrowth is essential to the future survival of the cassowary population.

Under the EPBC Act, 'offsetting' is still being used as part of the approval process. This practice can allow for removal of any vegetation regardless of its rarity on condition of a monetary contribution or that vegetation elsewhere is permanently protected. i.e. Your Resort Home, Oasis, Ziva, Liquid, Plapp Golf Course, to name a few.

'Offsetting' is gradually but surely destroying and fragmenting the remaining natural habitat in our area.

None of the following development applications currently being assessed as 'controlled actions' under the EPBC Act are within the urban footprint either in the current town planning scheme or in the FNQ2031 Plan.

They are all on land zoned either rural or rural conservation and at least four are on good quality agricultural land (GQAL).

- Boyett Road — 24 lot residential development zoned rural (GQAL)
- Garners Beach 'Nemourna'— 11 lot residential development zoned rural conservation
- Carmoo, Sellars Farm — 58 lot residential development on rural conservation (GQAL)
- Lugger Bay, Wahroonga holdings — 13 lot residential development zoned conservation
- Cassowary Drive, Thompson development — 41 lot residential zoned rural conservation (GQAL)
- Cassowary Drive, Health resort — 40 bed tourist development on rural conservation (GQAL)

There are community concerns that all except the Boyett Road development, which places residential housing on optimum agricultural soil, will require removal of natural vegetation.

These developments alone, should they be approved, will contribute almost 200 new residential lots to the approx 1300 now available.

The current planning schemes governing Mission Beach allow for a population of 18,000.

Local authorities seldom plan for potential growth in an area beyond 10 years so the above figures far outweigh calculated demand.

The word 'sustainable' is bantered around but unless there is a fundamental shift in attitude from the council, development industry and in promotional material, the mainstays of our economy will rapidly disappear.

The inappropriate planning decisions for Mission Beach has left no surety for anyone. On the contrary, it has created further community division between the expectations and desired outcomes of both the development industry and environment lobby.

It will require forward thinking by governing authorities, especially local government, to abide by and implement the many guiding and regulatory Plans and Acts, to qualify to use the word '**sustainability**' when making management decisions which have an '*impact*' on the very environment that drives the local economy.



## Living with approval conditions

If you look hard enough you will be able to spot the cassowary with 2 chicks at the bottom left of the photo. They are eating white cedar fruit dropping onto the walkway within the vegetation corridor between the two high density residential areas of the Oasis development. Blue Quandong fruit are also littering the walkway a bit further along.

During the approval process of this development C4 argued against any walkways within the corridor but DEWHA imposed conditions that increased the



walkways from one to two. Given the proximity to the designated cassowary corridor we also argued for a no dog policy. DEWHA approved two dogs per household up to 20 kilos each. The conditions also require a weed control program and the gates leading into the walkway to be self closing and bearing a sign to encourage the use of an alternative route.

A quick visit reveals the gates do not self close, the signage does not encourage people to use an alternative route to the beach and guinea grass is head high the full length of the corridor.

The incorporation of fencing as a mitigating measure against human/cassowary interaction to gain development approvals has foreseeable consequences.

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## World Heritage Values

The Wet Tropics of Queensland is a region of spectacular scenery being inscribed on the World Heritage List in 1988. The Great Barrier Reef was placed on the List in 1981.

The way in which a world heritage place is managed can have an impact on its heritage values. Management arrangements are vital in implementing Australia's obligations under the World Heritage Convention. Primary objectives include:

- to protect, conserve and present the World Heritage values
- to strengthen appreciation and respect of the property's World Heritage values, particularly through educational and information programs
- to integrate the protection of the area into a comprehensive planning program
- 

In achieving these primary objectives due regard is given to:

- recognising the role of current management agencies in the protection of a property's values
- the involvement of the local community in the planning and management of a property.

Firstly a matter of compliance. Who will make sure no dogs are allowed to enter the corridor? What is stopping a member of the public with their dog entering the walkway from Nonda Street? There are no signs prohibiting dogs in the corridor despite it being a condition of approval. What will happen when there is the inevitable human/cassowary/dog encounter?

The fence is a barrier to both humans and cassowaries. The only sensible solution to this problem is to move the fence to the other side of the walkway. The loss of part of the corridor would more than compensate for the reduction in threats to cassowaries, people and dogs. The whole corridor should be a no go zone with clear signage. That would solve the anticipated problems that will surely arise on the Oasis development. The raised walkway it connects to through the covenanted wetland on the Ziva (Satori) development site is another story and will create its own obvious problems.

## Intensification

It is a disappointment that a 'business as usual' approach has been adopted by the Council in the recent approval to allow an even higher density of this development to include 48 units on three lots. In approving the intensification the 'officer' commented that the applicant claims the density "would not exceed a typical housing subdivision" The original plan shows that if the three lots were subdivided at the same density as the rest of the development it would amount to under 20 lots.

The decision is counter to the Council adoption of Terrain's Mission Beach Habitat Network Action Plan into CCRC's Corporate Plan under their environment policy and undermines the recommendations of density constraint for the village area of Mission Beach in the 2031 Plan.

The deputy Mayor's comments in moving the motion to accept the application may enlighten us. "***We must be seen as a pro development Council and we need the revenue from this development.***"

It seems that the revenue from 28 units has been chosen above the sustainability of the special values of Mission Beach.

Mission Beach is often described by visitors as one of the most beautiful places in the world. The coastal drive between Clump Point and Bingil Bay is recognised as having very high scenic value. It contains the combination of fringe coral reefs and rainforest coastline, an international rarity.

It is also the point at Mission Beach where the two world heritage areas of the Wet Tropics and Great Barrier Reef meet. The incremental loss of the special values at Mission Beach through inappropriate development and planning is of great concern.

The recent upgrade of Alexander Drive has not only contributed to that loss but to date has created an unsafe road through the encouragement of higher speeds and encroachment into naturally occurring vegetation creating dangerous obstacles for traffic.

The role of current management agencies and the local community are not being afforded equal consideration in the planning and protection of the world heritage property values at Mission Beach.

Liz Gallie



# Djiru Country

Leonard Andy, local artist and C4 representative will be interpreting the Djiru people history in the newly renovated Display at the Environment Centre.

Leonard is currently working on a design which incorporates a three dimensional midja, fusing the purpose built traditional rainforest shelter with an interior painting.

Surrounding this work will be a painting by Leonard which depicts the association of the Djiru people with the abundant wildlife at Mission Beach



C4 anticipates the display will be operational in a few weeks but anyone is welcome to visit anytime to check out the progress of the refit made possible by a grant from WTMA.

## Cassowary Discovery Trail nears completion

The concept for three public artworks highlighting the plight of the endangered cassowary was the brainchild of Lynda Hannah who was successful in obtaining a substantial grant from Arts Queensland. The outcome of her vision has been realised in these three installations.

### 'ENTWINED'

The Southern Cassowary (*Casuarus casuarus*) is a desperately endangered species, native to the tropical rainforests of the Cassowary Coast region.



Our work explores the relationship between the cassowary and the rainforest; bringing to life the dependency of the cassowary on the rainforest for food and shelter, and that of the rainforest on the cassowary for its continued regeneration.

The vines entwining the cassowary are designed to dramatize this essential symbiosis, while the glass draws attention to the animal's vulnerability and fragile hold on life in a shrinking habitat.

About us: We are a group of emerging glass artists from Mission Beach, mentored by Judith Bohm-Parr. Over a six-month period we were immersed in a pursuit to discover all there was to know about the cassowary and its habitat.



### 'DJIRU DREAMING'

The habitat of the endangered Cassowary is linked in time and space with the basalt land formations of Mission Beach. This project aims to draw on the Dreamtime stories with an overall horizontal installation to reflect the character of this part of the coastline. Dreamtime stories about the mouse on Kananglebah and the clever blue tongue lizard that knew where to find water and the catastrophic event when the rivers dried up and the islands joined the mainland are implied in this interpretation through symbolic motifs.  
-Joy Fitzsimon

### 'The Great Cassowary Game'

The Great Cassowary Game is a life-sized board game sited at Rotary Park at Wongaling Beach. It was created by the children of Mission Beach and surrounding areas, who learned about the cassowary life cycle, and created the artwork used in the glazed tiling. Throw a stone or stick ahead, and hop, skip or jump from square to square and learn about the dangers and delights of life in the forest. The project was conceived and co-ordinated by Sally Moroney, with help from Shaun Thedens, Mehera Moroney, Janine Ewens, Michelle Larsen, Kay Mays and the children of Mission Beach and surrounds.





FOOD – necessary and normally nice, and not too many things in life can match that. We've never had such a variety and abundance to choose from, and as the saying goes "variety is the spice of life".

Refrigeration, high-tech packaging and simple long distance transport systems mean our food can come from pretty well anywhere in the world. Climate Change however, has "drawn the crabs" on the energy and resources used in transporting food all over the planet, and a few years back the "Food Miles" issue gained a solid base in Europe.

The fact that most "fresh" produce on our supermarket shelves has been at least to Brisbane and back, even if it was grown as far north as Cooktown, demonstrates what the fuss is all about. Great for transport companies and fuel suppliers!

The NSDA (Network for Sustained and Diversified Agriculture) has roped in quite a few social and environmental issues with the "FARMGATE MARKETS" held every Saturday at the PIER in Cairns. At the opening of the markets in April, Sarah Rizvi (NSDA Secretary) said "We hope this event will promote consumer consciousness about the social, environmental, nutritional and community benefits of supporting local food networks, and provide an outlet for discerning Cairns customers who seek to support fresh local produce".

We attended the market for the first month (until our rambutan and breadfruit season ended) and found it to be well worthwhile for various reasons. The NSDA (with funding from support from Blueprint for the Bush) have done a great job planning and running the markets. Stallholders can only sell produce from the "local" area with the extremities of Cooktown, Chillagoe and Cardwell.

All stallholders' presentations of locally grown or manufactured foods are labelled with the area produced, distance travelled to market, and in most cases nutritional values and production methods.



As growers we found the face to face interaction with market shoppers enlightening with respect to their knowledge, taste preferences and buying habits regarding tropical exotic fruits. As we'd expect a big percentage of shoppers look for best value for money, some are hungry for new tastes, and an impressive number were there with a strong conviction to support their environmental, ethical and health values.

The FARMGATE growers market should become the best in Australia as the local region it covers, from ultratropical coastal to temperate tableland growing environments, has the potential to produce almost all of the world's food lines at some stage of the season, which could not be done anywhere else on our continent.

Local markets give producers a perfect opportunity for promotion and market research of their lines and things like the Amazon Custard Apple (*rollinia deliciosa*) pictured, which are difficult to freight long distances, are therefore perfect for local trade. While the southern cities will still be the destination of most of our fruit

production, local markets like those at Farmgate and Mission Beach will clearly follow the trends and grow in popularity as THE place to get the freshest seasonal foods as well as a "must do" for visitors to our area.

The more people supporting the local markets, the better they'll get, and as individuals the "power of our purse" is stronger than our political vote in most situations.

The likes of King Island and Margaret River have benefited greatly from their reputations for good tucker, however there are plenty of indications the amazing diversity of colours and tastes of the Tropical North foodies' paradise is a sleeping giant starting to stir.

**Buy fresh – Buy local!**

Peter Salleras

## Dad and Chicks

It is wonderful to report that the Dad and chicks featured in the last Bulletin survived the dog attack. They have not been seen in the vicinity of the incident since but have been reported actually near where the dog lives at Bingil Bay. It is part of the habitat connectivity, mainly along the gullies between residential development and the banana farm.

The birds keep well down into the gullies now and although the dog is responsibly confined in a fenced yard it does, as do many other dogs in the area, bark when aware of their presence.

As development encroaches more into cassowary habitat even a confined dog can intimidate cassowaries, denying them free

movement and access to important food resources.

If you own a dog on a property which has a boundary onto natural vegetation, please consider placing your pets fenced area away from the boundary or where your dog is less likely to be aware of wildlife movements.



By being aware of the impact each of us has on our immediate environment, we can make a difference in coexisting with the special native flora and fauna of our area.

# RISING TIDES

***"At this time CCRC does not have a planning policy in relation to rising sea levels...."***

The debate about climate change and its affect on the world's oceans continues to rage. Federal Environment Minister Peter Garrett has had to back down from a suggestion on ABC's Lateline that sea levels could rise by 6m as a result of the melting of Antarctic ice. The suggestion that warming in the Antarctic could lead to sea level rises of 6m was made in "An Inconvenient Truth", the film made by former US vice-president Al Gore.

James Cook University geophysicist Bob Carter said Mr Garrett's claims were typical of the political misinformation surrounding the global warming debate. "Like Al Gore and the other dark greens that they seek to mollify, politicians completely fail to comprehend that we live on a dynamic planet Earth," Professor Carter said.

continuing at 3 mm/yr or more since 1993, the melting of mountain glaciers has increased and the ice sheets of Greenland and Antarctica are also contributing to the rise."

A previous study led by John Church, shows that even a modest rise of 50 centimetres will result in a major increase in the number of coastal flooding events. "Our study centered on Australia which showed that coastal flooding that today we expect only once every hundred years will happen several times a year by 2100", says John Church.

Sea-level rise, combined with more severe weather events caused by climate change, will lead to storm surges that will greatly magnify flooding and erosion along coastal communities with devastating consequences.



Even a small rise will dramatically change Australia's coastline, global models indicate the sea-level rise on the east coast may be greater than the global rise.

While the average rise sounds small, its impact is massively increased by the effect of storm surges made more intense by increased strong winds, intensified by climate change.

The modelling for Cairns is a good example. It is not the "mean" sea-level rise but "the extreme events" that cause the destruction of homes and infrastructure.

With cyclone intensity increasing, results of one study show that by 2050 it could increase the height of a one-in-100-year storm surge event.

Whatever the number is, there can be little doubt that sea levels are rising around the coastline of Australia.

The UN's Intergovernmental Panel on Climate Change predicts they could rise between 0.18 metres and 0.59 metres over the next 100 years. But the rise caused by global warming may have been severely underestimated, say a group of climate scientists. "The sea level rise may well exceed 1 metre by 2100 if we continue on our path of increasing emissions," says Professor Stefan Rahmstorf of Potsdam Institute for Climate Impact Research, speaking at the recent International Scientific Congress on Climate Change in Copenhagen.

Dr John Church of the Centre for Australian Weather and Climate Research, Hobart, Tasmania, told the conference, "The most recent satellite and ground based observations show that sea-level rise is

Combined with the rise, the extent of flooding increased from about 32 to 71 square kilometres to encompass much of the Cairns downtown region.

Rising sea levels caused by the warming of the oceans are affecting the Australian coast and governments need to start working out how to adapt to the change, because it's likely to become more severe.

Some Local Governments around Australia are beginning to address the issue. The City of Lake Macquarie in NSW has calculated a sea level rise of 0.91 metres by 2100. This figure based on the best available scientific information and by choosing to "err on the side of reasonable caution".

The Sydney Coastal Councils Group, sets out the main impacts from sea level rise on the coastline and along estuarine foreshores:

Impact	Description
Coastal and foreshore erosion, retreat, and storm	<ul style="list-style-type: none"> <li>- Increased rates of erosion</li> <li>- Beach realignment</li> <li>- Increased flooding</li> <li>- Saline water intrusion further into creeks and groundwater</li> <li>- Increased storm surges and long term inundation</li> </ul>
Ecological Impacts	<ul style="list-style-type: none"> <li>- Threats to ecological communities unable to adapt to change in salinity levels</li> <li>- Changes in wetland and mangrove distribution</li> <li>- Other flora and fauna impacts</li> </ul>
Damage to infrastructure	<ul style="list-style-type: none"> <li>- Damage to public and private infrastructure including roads, bridges, houses and other buildings</li> <li>- Damage to utilities including water, sewer and electricity</li> </ul>
Public health	<ul style="list-style-type: none"> <li>- Morbidity and mortality associated with adaptation to sea-level rise e.g. community wellbeing</li> </ul>
Economic	<ul style="list-style-type: none"> <li>- Increasing insurance premiums</li> <li>- Investment in climate change mitigation measures</li> <li>- Increased depreciation of land and building values</li> <li>- Loss of tourism, recreation and transportation functions</li> </ul>

### Suggested Hazard Management Options

Environmental Planning	<ul style="list-style-type: none"> <li>- Restrictive Zonings</li> <li>- Planned Retreat</li> <li>- Voluntary Purchase</li> </ul>
Development Control Conditions	<ul style="list-style-type: none"> <li>- Building Setbacks</li> <li>- Raised floor levels</li> <li>- Relocatable Buildings</li> <li>- Planned Retreat</li> </ul>
Protective Works	<ul style="list-style-type: none"> <li>- Seawalls</li> <li>- Groynes</li> <li>- Beach Nourishment</li> <li>- Offshore Breakwaters</li> </ul>



In Queensland, the EPA administers a State Coastal Management Plan under Queensland's Coastal Policy. This addresses coastal hazards such as storm tide inundation but not specifically rising sea levels. The intent of the policy is to ensure that the development of urban land on the coast is carefully located and managed to minimise adverse impacts on coastal resources and their values whilst providing protection for life and property. The recent adoption of statutory coastal planning schemes in some States in Australia will hopefully lead to a change in local government planning responses to sea level rise, as not all local government authorities currently include sea level rise in their planning schemes.

At this time CCRC does not have a planning policy in relation to rising sea levels and yet parts of Mission Beach, especially South Mission are under severe threat. This town is vulnerable but the wide range of estimates of future sea level rise is still a problem for planning. The real issue for coastal planners should be the changes in the frequency of extreme sea level events and changes in wave climate; relatively small increases in mean sea level can cause substantial increases in extreme events.

Some of the management options to reduce the hazard of rising sea levels need to be carefully considered by CCRC now. As the sea continues to rise, towards the end of this century these options will become increasingly expensive. It may well be that some parts of Mission Beach will be impossible to protect so positive planning has to be put in place urgently.

The City of Lake Macquarie has legal advice that indicates Council may be liable for future damages if it does not properly consider the impact of sea level rise and other climate induced changes in its planning and policy decisions.

Even if greenhouse gas emissions could be stabilised by the end of the 21st century, sea-level rise from ocean thermal expansion may well continue. To minimise the impacts of climate change, we need to start changing our habits as soon as possible – Australia is one of the largest per capita greenhouse gas emitters in the world. The longer we delay, the less effective our actions will be.

## Beachcomber Confessions: Flotsam Research

100 years ago, Edmund Banfield charmed the world with his book: *The Confessions of a Beachcomber* (1908). The beaches he combed were any of almost 100 found within a 50 km radius of Dunk Island. This tale is not nearly so romantic or epic an adventure; merely observations of what is found today on Brookes Beach, a fabulous cove just north of Dunk.

This is one of those rare and precious beaches that still have their beautiful critters and unique lush rain-forest intact. Furthermore, there is no ugly road running the length of the dunes and no concrete dunny blemishing nature's fabulous vista.



Left; View of Brookes from Ninny Rise to the south. Right; Pom Pom Lily Pilly (*Syzygium wilsonii*) in the forest nearby.

What did Banfield find on the beaches in 1908? "Never have I found anything of real value; but am I not buoyed up by pious hopes and sanguine expectations?" "And what strange and varied things one sees": "...a harness-cask"; "... occasionally a case of fruit", "a cedar log", "long and heavy pieces of angle iron bolted to raft-like sections of the deck" (from a wrecked German barque). So what EJ found apart from natural debris was largely what fell off passing or foundered vessels. Two residents of Brookes



Not all flotsam is unwelcome, nuts and seeds found earlier.

Beach, who have collected beach rubbish about four days a week for over 10 years, started this research by collecting for one hour a day on three consecutive days following a minor monsoon event in March 2009 (ie after there was a moderate amount of flotsam washed up). They then sorted the three shopping bags of debris and photographed items found.

A regularly held view is that cigarette filters and plastic bags are dominant in our environmental refuse stream. Indeed, someone on ABC Radio declared recently that cigarette filters are the most common refuse item by number, accounting for more than 50% of debris. It is also thought that the filters break down very slowly in the sea or environment. If this is so then our beach research should find a very large portion of beach debris (by numbers) is butts. What was found on Brookes?

Container closures are the most common recognisable whole forms of object seen. Over 150 were found in this sample. Plastic fragments make up the bulk of beach debris. We found only three butts (estimated at 0.25% of around 1200 items found) and less than a handful of flexible plastic (bags and cellophane). This is in accord with regular observations. The glass 'catch' was atypically small; in winter it's often a bigger player. Glass debris is reducing as it is removed from the beach rock base at ultra-low tides where it was deposited by beach party goers eons ago.



The most common recognisable items found were plastic container closures.

Whole objects found but not shown here include timber, bottles, cans, cigarette lighters, tubes, fishing gear, sun glasses, toys and footwear. Asian based products are relatively common and probably fall off boats.



Some of the small plastic chips and components.



exotic finds this week.

Must admit, the dildo was a first!

Ropes and strings, especially fine blue knotted nylon net, are common. Strangely this net is persisting after several years of trawler bans – some trawlers must still sneak in at night one suspects.

Saw no balloons this time. They invariably wash up after eco-tour ships stay the night in the bay. There are always a myriad of personal care products found: pegs, brushes, combs, cotton bud sticks, toothbrushes, shaving gear and syringes were in evidence this week.



Personal care products figure large as always.

A little more uncommon are the deodorant can and vacuum head. Some objects were too big to remove for now eg; a rear tractor tyre lies incongruously at the north end of Brookes.



rear tractor wheel arrived on Mission Beach and ended up here a week later.

Because we found so few cigarette filters it was decided that a second, more accurately quantitative, study was needed to verify this estimate (0.25% incidence). All visible rubbish remaining was now collected and counted down to the smallest fragment. That way we would capture all the butts and see what portion they are of total debris. One bag was collected plus an Asian aerosol can, a plastic tube and three timber pieces:



What's in this bag? Pieces by number comprised: 3335 rigid plastic (95.4%); 46 plastic film/bags (1.3%), 29 glass (1%), 20 foam plastic/rubber (0.6%), 20 string/rope (0.6%); 11 cigarette butts (0.3%); 11 metal, 10 fishing gear, 5 paper, 4 textile fragments and 3 timber. This shows that, while cigarette filters and plastic bags are bad news for sure, in beach litter terms, rigid plastic is the real bad guy.


Where does all this debris come from? Without chemical analysis we are guessing. However, we do know for certain that on Brookes today very little of it comes from visitors (except for the odd party when cans and butts are left). Some is from boats we know but that is almost certainly also a minor portion. Banfield observed: "Nothing goes south on this part of the coast". He later conceded that coconuts did occasionally arrive (barnacle coated) from South Pacific islands.

A recent JCU study showed that pumice does arrive sometimes from well north of here (Vanuatu and Solomon's). Our guess by the patterns we observe is that most debris here comes from urban areas south of us. People deposit rubbish in streets and streams; floods bring it to the Coral Sea where it is scattered far and wide to our NQ beaches.

Does this mean that all the romance has gone from North Queensland beachcombing? No way. Nature sends much to arouse curiosity and we have discovered two alluring messages in bottles over 16 years: one ex Whitsunday Islands (400km south; a German tourist author) and one from a Victorian beach 3500km south.

A smidgeon of romance remains!

Ken and Thelma Gray,



**"Today, more than ever before, life must be characterized by a sense of Universal responsibility, not only nation to nation and human to human, but also human to other forms of life."**

**- Dalai Lama**

**Short Beaked Echidna** (*Tachyglossus aculeatus*) are monotremes (mammals that lay eggs). There are only three species of monotreme in the world -- the platypus and two species of echidna, one of which is restricted to New Guinea, other common throughout most of Australia. Exhibiting characteristics, which are found in reptiles and mammals, these guys are amazing. Like reptiles, they lay eggs, have legs that extend outward then downward and have a lower body temperature - about 31-32C and like mammals, they lactate and incubate their young in a pouch. Growing to 30-45 cm in length and weighing 2-5kg, their bodies, except for belly, face and legs, are covered with cream coloured spines, which grow to around 50mm in length, these are actually modified hairs. Insulation is provided by fur between the spines, which ranges in colour from honey to a dark reddish-brown and even black, the fur of the Tasmanian echidna is thicker and longer than those from warmer mainland areas, sometimes covering the spines.

Less affected by land clearing than many other native animals, they can live wherever there's a supply of ants. Highly adaptive, their behaviour changes with location and temperature. In the warmer parts of Australia they're completely nocturnal, spending the daytime resting out of the heat, while in southern Australia they are often active during the day, particularly during winter. If disturbed, they dig vigorously, sinking into the ground leaving only their spines exposed, or if the surface is hard, will curl into a ball with spines exposed in every direction, they are very strong and practically impossible to dislodge once they set their mind to it. They are also surprisingly good swimmers, paddling about with only their snout and a few spines showing.



These shy fellows are solitary for most of the year, but can be seen during mating time with several males following behind a female, the Echidna Train. Two weeks after mating, one rubbery-skinned egg is laid directly into a small backward facing pouch, which has developed in the female. Ten days later the baby (puggle) hatches and remains in the pouch, whilst lactating, Mrs Echidna spends most of her time in her burrow. They have no nipples, instead their mammary glands secrete milk through two patches on the skin from which the young suckle. The kids get booted out of the pouch at around 2 - 3 months of age because they get too prickly and weaned at around 6 months.

**Jo Digger:** was run over by a tractor slasher and had nasty cuts on his back, he was rescued and brought into care. He had several courses of antibiotics and a lots of care for his wounds. He was a gorgeous little character, if you startled him, he would curl up in a ball with his hands over his eyes. Their tongues are amazing, so long and thin, very useful

for sticking in the ant's nests we collected for him.

Unfortunately after 6 weeks in care, poor little Jo died suddenly of a major infection, which no amount of medication and love could fix.

Although not every story has a happy ending, we, as Wildcarers, cherish every moment with our special fauna and use every opportunity to learn more about our furred and feathered friends. Each one has a different character and personality.

If you think you would like to join our fabulous group and enrich your life by caring for our wonderful wildlife, please feel free to contact us. We have many experienced carers who are willing to share their knowledge and support new carers. Apart from Annie the striped-possum and Jo Digger, I care mainly for birds. Birds are wonderful and delightful creatures (who sleep through the night! There's no getting up to feed them!) I love my babies.





**Jennifer Downs.**  
Councillor – Cassowary Coast Regional Council  
m: 0400 330 870

## Update – Visual Amenity Advisory Group.

The Visual Amenity Advisory Group is made up of concerned residents who want to see the look and feel of our villages at Mission Beach maintained and enhanced.

Senior officers from Cassowary Coast Regional Council take the time to meet with the group with representatives from C4, MBCA, Tropic Coast Business Women, Tourism, Terrain, the Development Industry, and the Planning Industry all adding spirited ideas to the debate of how to *'identify, promote and encourage community participation in the maintenance and enhancement of the natural and aesthetic values of our region'*.

At the most recent meeting of the group, Mr. John Breen, Regional Manager – Main Roads Department based in Cairns attended the meeting to hear a list of concerns about particular sites that are the responsibility – either directly or indirectly of Main Roads.

The group was extremely appreciative of Mr. Breen's input which provided a clearer understanding of how to progress some of the sites around our part of the region to meet the expressed values of Mission Beach.

In particular the focus was on: The commercial development at the entrance to Mission Beach, the



Woolworths roundabout, the effect of the bikeways project along Tully-Mission Beach road (which has to be a joint project with Main Roads), the 'hole' in the ground protected by orange mesh on Tully Mission Beach road (for a very long time now), and defunct signage poles without signs on them.

It all takes time – but establishing the relationships with all the stakeholders is what gets things done. Councillor Jennifer Downs who chairs the VAAG – said she was extremely appreciative of the efforts of every single representative for their commitment, their time and their dedication to working together to enhance the look and feel (the visual amenity) of Mission Beach.

## Night noises Susan Hawthorne

In Far North Queensland, a long time ago, some god went troppo

in a frenzy of design. On that day or night the rhinoceros beetle

came into existence. Slam, bash, crack— it's the sound of failed aerodynamics.

A loud hiss. That same rhinoceros beetle on its back wanting assistance.

The exoskeleton hard as plastic shiny as ebony but not the brightest

kid on the block. You pick him up, examine that horn adorning his head,

marvel at its baroque excess. You crawl into bed to the chatter of a family of geckos.

The ones on the white wall are as pale as plaster. Just as sleep is taking you

a loud thud wakes you. Dragging your body out of bed, you stumble

out with your headlamp torch to the noise— great green glee meets your eye

the tree frog again. Across the fence the bush hens are scrabbling and squawking.

There *are* silences in the night – as moth wings sift past your face, as an owl

swoops between branches or a golden orb spider spins her architectural web.

## Position Vacant

The significant threat the Ella bay Resort and residential development poses to the fragmented endangered cassowary population was not enough for the federal government to deny the project under the EPBC Act. The development, although large scale, is not dissimilar to the Plapp golf course/residential resort development at South Mission beach.

We have to ask why?

How can we ignore the consequence this style of development will have on the endangered species, (icon of our region) that we are privileged to share our lives with.

Bramston Beach resident Russell Constable's private turtle surveys identifying countless turtle nests in and around Ella bay have reopened assessment of the Ella Bay Resort.

"I've been thinking that the developers at Ella Bay should perhaps think about advertising for a special type of gardener if their proposed 450 hectare urban development/resort actually gets approval from the Federal Government". Russell said.

Their advertisement could go a bit like this:

**Wanted skilled rainforest seed collectors/ planters/gardeners** (at least 7 positions available)

### **Qualifications:**

- Must be able to run through rainforest at speeds approaching 50 km/hr
- Good swimmer (able to swim wide rivers confidently)
- Ability to jump 1.5 metres high with ease (needed for seed collection)
- Ability to distribute thousands of fertile seed seeds up to 5km from parent trees
- Willingness to work 7 days a week 12 hours per day
- Must be frugivore willing to subsist on rainforest fruits (often toxic)
- Prepared to endure extreme risks from traffic and wild/domestic dogs
- No accommodation available will have to camp out in one of Australia's wettest regions
- Applicants required to work alone and unassisted  
No financial remuneration available, no superannuation and no health care of course.

Just quietly I don't think there would be a rush of applicants for these jobs!

Want the good news... there's already a great team at Ella Bay doing this job perfectly. Indeed they and their ancestors have been performing this task for so long that plant species have co-evolved with these birds to make good use of their seed dispersal methods.

Of course I am talking about the endangered Southern Cassowary *Casuarius casuarius johnsonii*. There are scores of reasons for humans to work hard to ensure this endangered bird is saved from the extinction it now faces. Today I just want to focus on its role as a seed dispersal agent.

As I mentioned cassowaries have been around for a long time and they appear to have evolved from a group of large flightless birds called the emuarius



. The emuarius existed about 20 to 30 million years ago. The Australian fossil records show Cassowaries in Pliocene fossils (3 million to 7 million years old). That's plenty of time for the co-evolution of both rainforest plants and cassowaries.

These birds are one of the few animals capable of distributing the seed contained in large rainforest fruits. The long term survival of large fruited rainforest trees is strongly linked to the presence of viable populations of seed dispersing cassowaries. During the time the seed spends in the cassowary's gut the bird may travel distances exceeding 5km from the parent tree. Without these birds they have no way of maintaining their population spread.

Why are cassowaries so good at distributing rainforest seeds? Good question I'm glad you asked! Cassowaries have been observed eating over 200 species of rainforest seeds. They have a relatively short gut and don't grind seed in a gizzard like a lot of birds.

This means the seed goes in one end of the bird wrapped in a nice fruity parcel and about 10 hours later it pops out the other end of the bird cleaned of the fruit and deposited with a nice fertiliser package... thank you very much! Cassowary droppings have also been shown to repel seed eating animals ensuring the excreted seed has a reduced chance of damage by seed eating animals.

Often fruits around seeds contain germination inhibitors so by digesting this coating the cassowary starts the germination clock ticking.

During their studies, B.L.Weber and I.E.Woodrow found that passing through a cassowary gut improved germination rates for the rare rainforest tree *Ryparosa*. They recorded 92% germination with cassowary and 4% germination without, pretty strong evidence of the benefits of this avian seed disperser!

I wish to quote our Federal Environment Minister Peter Garrett AM MP. This was taken from the media release Decisive Action Taken To Protect Mission Beach Cassowaries dated 28 July 2008. Minister Garrett said *"The southern cassowary is a case study of how native species contribute to the overall resilience of an ecosystem". "the southern cassowary eats rainforest fruits like native laurels, lilipillies and palms, and disperses the seeds in their droppings. So their survival was central to the regeneration of the area and long-term viability of rainforest communities"*.

Well that's the good news now here's the bad, southern cassowaries are on the way out yep that's right they are facing extinction. Why? Well the biggest factor has been habitat loss and fragmentation. Kofron and Chapman assessed the decline of the species in 2006 and found only 20 to 25 percent of their original habitat remains.

Remaining habitat is fragmented which genetically isolates cassowary populations and exposes them to their second major threat which is vehicle strike. Kofron and Chapman Studied 140 cases of cassowary mortality and 55% were from vehicle strikes (followed by 18% from dog attacks).

Between 1989 and 1998 Mission Beach recorded approximately 40 cassowary deaths in vehicle strikes alone. If you check out the Queensland Parks and Wildlife 2006-2007 State of the Wet Tropics Report it documents 31 Cassowary deaths in the wake of Cyclone Larry in 2007.

Considering the Australian southern cassowary has a population of about 1200 to possibly 1500 animals these mortality figures are frightening. There are more pandas in China than cassowaries in Australia that's why I'm sitting here taking hours to punch this out with 2 fingers!

But stop! The situation is not hopeless, however our government needs to take firm and decisive action to protect this species while a genetically viable population exists to work with. Habitat preservation should be the number 1 item on their list.

Returning to the situation at Ella Bay the construction of a 450 hectare urban development/resort with a forecast population of 5000 people in an area that contains endangered cassowaries and recorded endangered cassowary habitat is simply unacceptable.

Places like Mission Beach have already proven that cassowaries and large human populations cannot coexist without unacceptable and unsustainable losses to fragile cassowary populations.

Ella Bay has a cassowary population that needs our Federal Government's intervention.

If Federal Environment Minister Peter Garrett AM MP overlooks the gravity of the future threats facing Ella Bays cassowaries we may all be reading advertisements like the one I have suggested and I doubt any of us will be laughing.

Extinction is forever.

Russell Constable—Bramston Beach

## BE A LEADER

One in four Australian households have a dog - we value our companion animals. Our unique native animals are also widely valued, with some species kept as pets but more often simply enjoyed in the wild and as welcome visitors to our gardens. The health of our environment relies on the harmonious inter-relationship of all species within a given habitat. With good pet management and public awareness the needs of domestic and native animals can both be met.



Dog attack is the biggest threat to cassowaries next to traffic strike. Mission Beach is cassowary country so by being a responsible pet owner you can protect our wildlife.

***So please – take the lead !***

### **Weed of the Month**

#### **MOTHER-IN-LAW'S TONGUE (*Sansevieria trifasciata*)**

This plant is an upright succulent herb that grows to about 60 cms. From the fleshy rhizome emerge stiff, lance-shaped leaves growing to 60cms to 120cms and dark-green with mottled grey-green and yellow coloured. This is a common plant sold in nurseries and at the markets as an ornamental plant. If released into the environment it easily dominates, and prevents regeneration of native plants. It is a native of Nigeria, and is listed as an Undesirable Plant in the Wet Tropics World Heritage Area. Though not currently declared, its control is highly recommended.



## Mission Beach - An Area of High Biodiversity.

Any disturbance to the natural environment can have considerable impact on that biodiversity.



The Mission Beach area supports many vulnerable, endangered and critically endangered species and ecosystems. Even clearing of a small amount of natural habitat to build a house can contribute to the decline of some of those species.

It is legal under the Vegetation Management Act to clear vegetation for a house site and to clear and fence boundaries. This can result in further fragmentation and isolation of habitat and degradation of rainforest through edge effects.

Inappropriate placing of building envelopes and fences can expose the natural environment to invasion of exotic flora and fauna including dogs and cats, and can deny or interrupt free movement to

essential habitat for many species of fauna, including the cassowary which relies on a large range for survival. You can help minimise the impact you have on your natural surroundings by carefully planning the size and placing of your building. Seek advice about what vegetation you need to clear. You may be able to just as easily work around any rare or special flora within your area. This could aid in protecting important ecosystems and native wildlife.

The knowledge is available and how we individually use that knowledge will have a long term affect on the future of Mission Beach.

Please consider your local environment when planning the use of your land.

## The quest for a 'greener' concrete

**The world is using billions of tons of it and it takes a lot of energy to make it.**

One of the most common building materials in the world, concrete, is a major contributor to global warming.

It is one of the most polluting but widely used substances on the planet after water.

Cement is made by heating clay and limestone together, normally by coal, to form 'clinker'. It is then ground and mixed with other additives. The chemical reaction produced in the process of heating, emits large amounts of carbon dioxide (CO<sub>2</sub>).

The industry admits that some 5% to 10% of the world's emissions of greenhouse gases are related to the manufacture and transportation of cement, — twice that of the aviation industry.

Because building materials such as steel and wood are less efficient, the problem is in the amount of cement being produced i.e. in 2006 2.4 billion tons.

A worldwide quest by manufactures to find a 'greener' cement, has resulted in the experimentation of organic waste materials as a substitute. It has been found that in some cases there can be a 25 percent saving in the mix.



One proven reliable supplementary cementing material is right on our doorstep, bagasse, a by product of the sugar cane industry.

Currently, on a broad scale, there is no known easily available substitute for cement

Limestone remains the abundant, accessible, and effective key ingredient.

The term 'concrete jungle' has never been more paradoxical — while calculating our carbon footprint, cement must be added to the mix.

Liz Gallie

# 'This is Cassowary Country'

Exhibition at Cairns Regional Gallery until 24th May — a must see



'The Sacred Pecking Order' Margaret Genever



'This WAS cassowary country' Susan Doherty

**This is Cassowary Country** is a collaborative effort by seven artists. The artists working in diverse media and styles, are unified in their deep concern for the preservation of the far north Queensland habitat of the cassowary. And they are anxious to highlight the precarious situation for this important umbrella species—the cassowary.

The artists are members and affiliates of Kuranda conservation community nursery and the exhibition compliments the KCons' work to identify and document the remaining cassowaries, their habitat and its condition in this region. In this study cassowary scats are collected and their locations recorded. This research makes a significant contribution to the overarching CSIRO cassowary recovery plan for the wet tropics. The study is in addition to KCons' volunteer programme of growing local native flora in it's 5,000 plant nursery for public and private plantings.

The artists, recognising the unique ability of visual art to communicate complex ideas in a way other media cannot, have created new works for this exhibition with the aspiration of widening awareness of the endangerment of the cassowary. They draw attention to its importance to the ecosystem of the rainforests of the region and to the threats to its very survival. In doing so, they enable us to see ways forward.

The works that they have created will encourage residents and visitors to the area to see that this magnificent and inherently valuable species must not be allowed to slide into extinction without a concerted effort to ensure its continued existence.

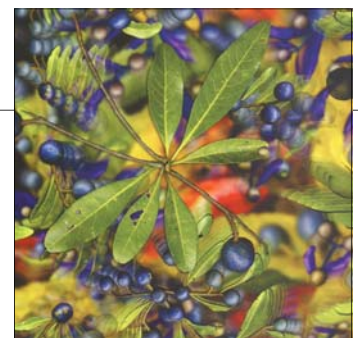
Mollie Bosworth, Susan Doherty Barbara Dover, Terry Eager Margaret Genever, Gerhard Hillmann, and Arone Meeks, have each engaged with their subject from their own perspective and using their own creative language to enunciate the issues with clarity. They have created innovative and thought provoking works which will serve as an inspiration to visitors to the gallery. The Cairns Regional Gallery has recognised the importance of this

initiative and supported it, as have the Myer Foundation and the Wet Tropics Management Authority.

**Laurel McKenzie**  
CURATOR



Untitled Mollie Bosworth



'Quangdong Song' Gerhard Hillmann



'Survival Game' Terry Eager



Looking for Blue Arrow  
Barbara Dover



Cassowary Dream Arone Meeks

## Garners Beach Cassowary Rehabilitation Centre—Update

The Garners rehabilitation facility, which was crucial to the recovery of the cassowary population at Mission Beach in the aftermath of cyclone Larry, currently houses three birds. Elderly 'Reggie' (approx 35 ) who came from South Mission Beach and suffers from an unknown condition which has left her with no quills; an adult, age unknown, thought to be a female, that was removed from the Lacey's Creek area with a severely swollen knee and 'Rocky' a juvenile, who as a stripy, was rescued from a dog's mouth and has since been cared for at the Garners Beach rehabilitation centre.

It is still a mystery as to what ails Reggie causing her to lose her quills. So far tests for a beak and feather disease have turned up negative. A new testing regime developed in the States and just available in Australia will be administered by Tully vet Graham Lauridsen in an attempt to identify her condition.

The adult showed up with an extremely swollen knee unable to walk to support or defend itself. It is believed the knee is an infection that has spread from a very badly damaged casque. The bird has been a month in care and has so far not responded to medication. There is not much hope held for its recovery.

The Lacey's Creek area lost a breeding female through traffic strike late last year. With the species under such threat of extinction two breeding females taken out of the immediate area is very worrying.

Another female must take the place of each one lost and the slow maturing rate of cassowaries (four years) means it could take several years to replace the genetic diversity lost by two breeding age birds.

Rocky is destined for release into the wild but because of the risk of contamination from Reggie, will be waiting for the results of the new tests.



The site for release will be chosen by internal discussions between staff at Queensland Parks and Wildlife (QPW).

Translocation of cassowaries can be problematic and is a controversial practice.

Cassowaries occupy 100% of their remaining viable habitat and are extremely territorial. As chicks already reared in the wild seldom reach adulthood through lack of habitat, introducing a bird into an occupied area can have expected difficulties.

Recently 'expressions of interest' were called for the management of the QPW owned Garners beach facility and 'Ninney Rise' at Bingil Bay. Both properties were bequeathed to National Parks by conservationists Freda Jorrison, John Būust and Mrs Tode.

There were no successful tenderers and it is believed that QPW staff will be moving into both premises. The presence of resident wildlife workers is most welcome in our high biodiversity area.

C4 is a member of the Garners Beach Rehabilitation Centre Advisory Group and will give a regular report in the Bulletin of the important work being administered by the QPW staff.



### C4 Nursery Specialising in native species, rare littoral rainforest plants

The Nursery is open every day,  
Please call C4 on 4068 7197 for information or advice  
on your native garden

### *Imagine More....*

- Almost half of all mammal species occurring in the Wet Tropics occur in Mission Beach. That is 17% of the mammals in Australia.
- The diversity of birds in Mission Beach accounts for approximately 36% of Australia's bird species. Mission Beach provides habitat for 277 native species.. By comparison, the UK has 280 regularly occurring bird species and New Zealand has only 97 native species.
- The diversity of fauna also includes some of the more spectacular creatures of the Wet Tropics such as the Stripped Possum and one of the largest populations of the White Lipped Tree Frog – one of the world's largest frogs.
- Although there is no comprehensive list of the frogs of Mission Beach available, local naturalists have recorded up to 27 different species including the significant species Common Mist Frog, Green-eyed Tree frog, Waterfall Frog and Lace-eyed Tree Frog.

## NATIVE TREES IN FRUIT IN MAY

Acumena divaricate	<i>Cassowary Gum</i>
Archidendron (ar-kee-DEN-dron) vaillantii	<i>Salmon Bean</i>
Bischofia (bish-OFF-eea) javanica	<i>Java Cedar</i>
Castanospermum (cas-ta-no-SPERM-um) australe	<i>Black Bean</i>
Cerbera (SERB-er-a) floribunda	<i>Cassowary Plum</i>
Commersonia (com-er-SO-nee-a) bartramia	<i>Brown Kurrajong</i>
Cryptocarya (crip-to-CAIR-ee-a) mackinnoniana	<i>Rusty Laurel</i>
Elaeocarpus (ell-ee-o-CARP-us) augustifolius	<i>Blue Quandong</i>
Elaeocarpus bancroftii	<i>Johnstone River Almond</i>
Endiandra (en-dee-AND-ra) montana	<i>Brown Walnut</i>
Fagraea (fa-GREE-e) cambagei	<i>Pink Jitta</i>
Ficus (FY-cus) drupacea	<i>Hairy Fig</i>
Ficus hispida	<i>Boombil</i>
Ficus racemosa	<i>Cluster Fig</i>
Ficus septica	<i>Septic Fig</i>
Ficus superba var. henncanna	<i>Superb Fig</i>
Ficus virens	<i>Banyan</i>
Melia (MEEL-ee-a) azedarach	<i>White Cedar</i>
Mischocarpus (mis-co-CARP-us) exangulatus	<i>Red Bell</i>
Phaleria (fal-EAR-ee-a) clerodendron	<i>Scented Daphne, Rosy Apple</i>
Rhus (RUSS) taitensis	<i>Sumac</i>
Syzygium (siz-IDG-ee-um) alliiiligneum	<i>Onionwood</i>
Syzygium gustavoides	<i>Grey Satinash</i>
Viticipremna queenslandica	

## NATIVE TREES IN FRUIT IN JUNE

Acumena graveolens	<i>Cassowary Satinash</i>
Acumena henilampre	<i>Broad-leafed Lillypilly</i>
Acronychia (ac-ro-NICK-ee-a) vestita	<i>White Aspen</i>
Aidia racemosa	<i>Archer Cherry</i>
Argyrodendron (ae-jir-o-DEN-dron) polyandrum	<i>Brown Tulip Oak</i>
Bischofia (bish-OFF-eea) javanica	<i>Java Cedar</i>
Cananga (can-ANG-ga) odorata	<i>Macassar Oil Tree</i>
Canthium (CANTH-ee-um) coprosmoides	<i>Coast Canthium</i>
Castanospermum (cas-ta-no-SPERM-um) australe	<i>Black Bean</i>
Cerbera (SERB-er-a) floribunda	<i>Cassowary Plum</i>
Clerodendron (clear-o-DEN-drum) emerme	<i>Harmless Clerodendron</i>
Clerodendron tracyanum	<i>Flowers of Magic</i>
Commersonia (com-er-SO-nee-a) bartramia	<i>Brown Kurrajong</i>
Cryptocarya (crip-to-CAIR-ee-a) mackinnoniana	<i>Rusty Laurel</i>
Cryptocarya oblata	<i>Tarzali Silkwood</i>
Dillenia (dill-EEN-ee-a) alata	<i>Red Beech</i>
Diospyros (di-OS-pi-ros) cupulosa	<i>Brown Ebony</i>
Elaeocarpus (ell-ee-o-CARP-us) angustifolius	<i>Blue Quandong</i>
Elaeocarpus bancroftii	<i>Johnstone River Almond</i>
Endiandra (en-dee-AND-ra) montana	<i>Brown Walnut</i>
Ervatamia (erv-a TAY-me-a) orientalis	NAME CHANGE * 1 see below
Euodia (yoo-O-dee-a) xanthoxyloides	NAME CHANGE * 2 see below
Eupomata (yoo-po-MAY-ti-a) laurina	<i>Native Guava</i>
Fagraea (fa-GREE-e) cambagei	<i>Pink Jitta</i>
Ficus (FY-cus) albipila	<i>Fig Wood</i>
Ficus racemosa	<i>Cluster Fig</i>
Halfordia (hal-FORD-ee-a) kendack	<i>Saffronheart</i>
Ixora (ix-OR-a) biflora	
Kailarsenia ochreate	<i>Gardenia</i>
Lophostemon grandiflora	<i>Nth Swamp Mahogany</i>
Macadamia (mac-a-DAY-mee-a) whelanii	<i>Whelan's Silky Oak</i>
Margaritaria (mar-gar-IT-aria) dubium-traceyi	<i>Tracey's Puzzle</i>
Mischocarpus (mis-co-CARP-us) exangulatus	<i>Red Bell</i>
Mischocarpus lachnocarpus	<i>Woolly Brush Apple</i>
Morinda (mor-IN-da) citrifolia	<i>Cheesefruit</i>
Nieyemera (nee-MY-er-a) prunifera	<i>Plumwood</i>
Planchonella (plan-shon-ELL-a) chartacea	
Pleiogynium (ply-o-JIN-ee-um) timorensis	<i>Burdekin Plum</i>
Psychotria (sy-CO-tree-a) poliostemna	
Rhus (RUSS) taitensis	<i>Sumac</i>
Syzygium (siz-IDG-ee-um) alliiiligneum	<i>Onionwood</i>
Syzygium gustavoides	<i>Grey Satinash</i>
Tetrasynandra (tet-ra-sin-AND-ra) longipe	
Tabernaemontana pandacaqui	NAME CHANGE * 1
Melicope exanthoxyloides	NAME CHANGE * 2
	<i>Banana Bush</i>
	<i>Yellow Evodia</i>



### Bandicoot Berry

*Leea indica*. Height to 5 metres Fruits May—Dec  
This is an attractive shrub or small tree with a multi-stemmed habit. It displays large heads of whitish flowers followed by green berries which change to red then purple. Grows in semi-shade to full shade.  
Butterflies are attracted to the flowers while birds are attracted to the fruit.

You can help to save the cassowaries at Mission Beach by donating to the  
***Cassowary Conservation Covenant Appeal***  
**C4 Land Gift Fund**

- 40% of cassowary habitat at Mission Beach is not protected.
- Current Town planning schemes will allow a population of 18,000
- Population at Mission Beach in 2009 is approx 4,000
- Mission Beach supports the highest density of cassowaries in Australia
- There are only approx 50 adult cassowaries left at Mission Beach.

**CASSOWARIES ARE ENDANGERED.** These prehistoric birds are on the edge of extinction! Though even today more rainforest habitat is being destroyed in Mission Beach.

This appeal seeks to address the problems arising for the cassowary from:

- destruction and fragmentation of habitat
- introduction of exotic flora and fauna including dogs
- inappropriate development and infrastructure



**The money from the land gift fund will be used for;**

- Purchase of land and establishment of revolving fund
- Placing a Conservation Covenant upon the legal title of land
- Permanent legally binding covenants

Please give generously to save our endangered cassowary  
Your donation is tax deductible  
For more information;  
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