



Newsletter of the Land for Wildlife Program South East Queensland

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This albino Brush Turkey was recently seen at the Noosa Heads carpark. Photo by Stephanie Edwards.



This albino magpie turned up at a Land for Wildlife property on the Toowoomba plateau after fledging from its nest in early November 2009. It is a bit of a loner, although a parent bird is normally in close vicinity. It doesn't appear to be harassed by any of the other birds and spends most of the day on the ground out in one of the paddocks. Photo by Rick Galbraith.

Albinism in Animals

A lbinism (from the Latin *albus*, "white") can occur in all forms of animals - birds, amphibians, reptiles, insects and mammals. Albinism results from the inheritance of recessive gene alleles that causes a partial or total lack of melanin, the substance that causes colouration in skin, eyes and feathers. The most obvious albinos are completely white in colour and have red eyes, however 'incomplete' albinism can also occur, which can affect skin, eyes and feathers separately or in varying degrees and combinations.

Albinos grow and develop the same as any unaffected individual; however animals with albinism lack their protective camouflage which severely hampers their ability to conceal themselves from predators or prey. The survival rate of animals with albinism in the wild is usually quite low. Albinos are often harassed by members of their own species, probably due to their inadvertent ability to attract unwanted attention. The lack of pigmentation can also cause sensitivity to ultraviolet radiation and light. Albinos are prone to sunburn and therefore skin cancer. The classic red eyes of albinos are caused by a lack of pigmentation over retinal blood vessels. This lack of iris pigmentation can cause sensitivity to light and weak eyesight.

Abnormally white feathers and skin may not always be due to albinism. Injury, disease and/or aging may also affect colouration. Animals may also be coloured white without being albino eg swans, snow foxes, polar bears etc.

Albinism in animals is rare. In birds it affects about one in 1800 individuals, in humans it affects about 1 in 17,000. Interestingly, 1 in 70 humans carry the albinism gene.

Article by Susan Nolan Land for Wildlife Extension Officer Brisbane City Council

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editorial

appy New Year readers and welcome to the International Year of Biodiversity. The Copenhagen meeting at the end of 2009 has seen climate change and associated issues, such as the loss of biodiversity, put firmly on the public agenda. But what is really meant by biodiversity and why should the UN declare a year in its recognition?

I like to think of biodiversity as layers of mesh containing all living things. Each mesh represents a layer in the food chain. The lowest mesh contains all the soil organisms (microscopic animals, bacteria, fungi, worms, mites etc.) that provide a basis for the next layer of mesh: plants, moss, lichen etc. These in turn provide nutrients and habitat for all animals ranging from flies to coral to Koalas. Then there is the top layer of mesh containing predators such as humans, eagles and dingoes that depend on the other layers for their food. The mesh is porous to allow for movement of air, water, nutrients and species between layers.

There is mesh for every terrestrial and aquatic habitat on Earth, and all layers are dependent on each other. So when we talk about biodiversity loss on the scale predicted with climate change, we are referring to the rug (or mesh) being literally removed from underneath us.

The complex nature of biodiversity has

recently been quantified in an impressive report, Numbers of Living Species in Australia and the World, 2nd Edition by AD Chapman. This report settles on an estimation that there are 11 million species on Earth and about 570,000 in Australia. Only 147,579 species in Australia have been described, whilst about 18,000 new species are described worldwide annually.

Australia is remarkable for its endemism; species that are found only in Australia and nowhere else. The percentage of Australian mammals that are endemic is 87%, reptiles 93%, frogs 94% and plants 92%.

We all depend on this biodiversity for our food, fibre, fuel, air and wellbeing. A pretty good reason for the UN to recognise it. Thanks to all the Land for Wildlife members who are doing their bit to protect and encourage our biodiversity here in SEQ.

Copies of the above-mentioned report are available for free online or by phoning the Dept. of Environment, Water, Heritage & Arts on 1800 803 772.

Thanks to all contributors to this edition. and as always, I welcome any stories or photographs that you wish to share with other Land for Wildlife members.



Deborah Metters Land for Wildlife Regional Coordinator SEQ Catchments

Landholder	Landholder Registrations, Land for Wildlife SEQ - 15/12/2009				
Registered Properties	Working Towards Registration	Total Area Retained	Total Area under Restoration		
2600	572	46,525 ha	2,686 ha		

Forward all Letters to the Editor, Fauna Vignettes and My Little Corner contributions to:

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Land for Wildlife is a voluntary program that encourages and assists landholders to provide habitat for wildlife on their properties.

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fauna vignettes

Could a black cockatoo do this?

We suspected an axe when we first spotted this act of "vandalism" on a 4 year old White Cedar but a telltale trail upwards pointed elsewhere. The Yellow-tailed Black Cockatoos seeking Banksia cones are daily visitors, so they're chief suspects. The "chopped" area is approximately 15 cms x 7 cms.

As well as our regular flocks of black cockatoos, the increasing numbers of small birds are a constant source of delight, especially around the bird bath. Noisy Miners are no longer seen and butcher birds and magpies have moved on.

With dense native shrubbery now established, the melodious Brown Honeyeaters, Scarlet and Lewin's Honeyeaters, flocks of Eastern Spinebills, blue and Red-backed Fairy Wrens, fantails, finches and pardalotes now dominate. We look forward to ever increasing numbers of both the small and large bird populations as the trees we've planted in the last 8 years mature and attract those in need of a good feed.

Tom and Val Geurts Land for Wildlife members Ormeau Hills Fauna Vignettes is a feature designed for you - Land for Wildlife members - to send in images of wildlife and their habitats from your property. In 2010, all contributors to Fauna Vignettes will receive a free Suburban and Environmental Weeds of South-East Queensland DVD valued at \$64.90.

Send good quality images and a short story to the Editor (see pg 2).



A damaged White Cedar on Tom and Val's property caused by Yellow-tailed Black Cockatoos seeking a tasty grub in the heartwood.



This photos shows damage to a relatively young regrowth (15 years) forest dominated by *Acacia oshanesii*. Nearly all trunks and branches in this wattle forest have been chewed apart by Yellow-tailed Black Cockatoos. Some people believe that the interaction between tree, grub and cockatoos plays a major role in promoting succession. Regrowth wattles often form a closed canopy resulting in almost no ground layer or mid-strata vegetation. As the cockatoos thin out the branches and trunks of the wattles, the spindly lightdeprived young Eucalypts and other long-lived species start to grow up through the canopy. Photo by Nick Clancy.

Editorial Response -

Thanks for your letter and yes you are correct in assuming that cockatoos have done this damage. Yellow-tailed Black Cockatoos have torn apart the trunk of your tree to find and eat large wood-boring grubs that live there.

Cockatoos search for holes in trees and bite into the hole to test the size. If the size of the hole indicates that there is a fully mature larvae (maybe 2 years old and 18 cm in length) inside, the cockatoo will tear away a strip of bark, on which it then stands, to chisel through the wood with its beak and prise out the grub.

The grub that used to live in your tree was probably the larvae of a cossid moth; the prized food of Yellow-tailed Black Cockatoos. Cockatoos also eat seed of Banksia, Casuarina, Eucalyptus, Acacia, Hakea and introduced pine trees. They also eat larvae of cerambycid beetles, gall-wasps and nonboring insects. Cerambycid beetle grubs live near the surface of the tree, but cossid moth larvae live in the heartwood. When cockatoos excavate cossid grubs they can tear apart a section of the tree, weakening it and causing it to

snap in strong wind.

Cossid grubs are usually found in the lower part of a tree. Studies have shown that dense undergrowth and midstorey vegetation around trees will deter



cockatoos from harvesting cossids, because they will not fly or forage for the grubs when there is vegetation in their way.

Given the lack of undergrowth and midstorey vegetation in plantations, Yellow-tailed Black Cockatoos have been known to damage up to 40% of *Eucalyptus grandis* plantations through excavating cossid grubs.

Cossids are eaten by cockatoos any time of the year, but mainly in June and July. Yellow-tailed Black Cockatoos will systematically search for trees containing cossid grubs and have been known to eat 50% of available grubs. In a natural forest (not plantation), cockatoos control borer populations and help the natural succession by thinning some trees.



A stately Yellow-tailed Black Cockatoo that causes havoc to Macaranga trees in the southern Gold Coast region. Photo by Jason Searle.

ecosystem profile

Threatened Habitats of SEQ

Article by Liz Gould Environment Sector Partnerships Manager SEQ Catchments

South East Queensland (SEQ) is home to an amazing array of species and habitats. Unfortunately, many different habitats and species have declined significantly since non-indigenous settlement. There are several pieces of legislation designed to halt this decline.

In Queensland, there is the Vegetation Management Act 1999 (VMA) that has mapped all vegetation in Queensland into regional ecosystem (RE) categories. There are at least 130 REs known to occur in SEQ.

REs have formal status under the VMA and are categorised into Endangered, Of Concern and Least Concern (previously Not of Concern) based on their remaining extent in the SEQ bioregion compared with their historical occurrence. Under the VMA, no RE can be cleared without a permit and the clearing of high value regrowth is also regulated.

Threatened plants and animals that are listed under the *Nature Conservation Act 1992* can also have their essential habitats mapped. These are then listed under the VMA for protection. So far in SEQ, this has been done for two species, the Wallum Froglet (*Crinia tinnula*) and the Koala.

The Australian Government's Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) also plays a role in the protection of individual species and ecological communities. Threatened ecological communities under the EPBC Act are categorised as either critically endangered, endangered or vulnerable.

Currently, there are four threatened ecological communities in SEQ:

- 1. Brigalow
- 2. Swamp Tea-tree Forests
- 3. Littoral Rainforest & Coastal Vine Thickets
- 4. Box Gum Grassy Woodland.

A further two ecological communities are currently being assessed for listing:

- Lowland Subtropical Rainforest on Basalt Soils and Alluvium in North East NSW and SEQ.
- 2. Riffle/Pool/Bar River Community of the SEQ Bioregion.



A patch of Brigalow at Black Snake Creek. Photo by Martin Bennett.

Brigalow Endangered

The Brigalow (*Acacia harpophylla*) ecological community extends across a large area of Queensland and NSW, but has declined to approximately 10% of its former area. In Queensland, 16 regional ecosystems (all endangered under VMA) are included in the Brigalow EPBC Act listing; two of these REs are known to occur in SEQ:

1. RE 12.8.23 Acacia harpophylla \pm semievergreen vine thicket species \pm Casuarina cristata \pm Eucalyptus populnea tall open forest on Cainozoic igneous rocks, especially basalt; and

2. RE 12.9/10.6 *Acacia harpophylla* open forest on sedimentary rocks.

Brigalow occurs in a highly fragmented state in the Cooyar Creek catchment, Lockyer Valley, Rosewood district and Fassifern Valley. Whilst further clearing of remnant and regrowth Brigalow is prohibited unless under permit, what is left is still threatened through the cumulative impacts of weeds, pest animals and inappropriate fire and grazing.

Several threatened species are known to inhabit and frequent Brigalow communities including the Collared Delma (*Delma torquata*), Black-breasted Button-quail (*Turnix melanogaster*), Glossy Black-Cockatoo (*Calyptorhynchus lathami*) and Bailey's Callitris (*Callitris baileyi*). Habitat reconnection and buffering is essential for the survival of these species.

Almost all Brigalow occurs on private land, with Gatton National Park the only protected area in SEQ with Brigalow. There are currently seven Land for Wildlife properties with remnant Brigalow on them with a further 59 Land for Wildlife properties supporting Brigalow regrowth.



Remnant Swamp Tea-Tree Forest on a Land for Wildlife property at Jimboomba. Photo by Deborah Metters.

Swamp Tea-tree Forest Critically endangered

Swamp Tea-tree (*Melaleuca irbyana*) Forest

has a very restricted distribution and is only found in South East Queensland. Since European settlement it has experienced a 74% decline in extent due to clearing, weeds, grazing of cattle and inappropriate fire regimes. Small remnants of Swamp Teatree Forest remain but are still subject to ongoing threats.

The EPBC Act listing encompasses two regional ecosystems, both listed as endangered under the VMA:

1. RE 12.9-10.11 *Melaleuca irbyana* low open forest on sedimentary rocks; and

2. RE 12.3.3c *M. irbyana* low open-forest or thicket on Quaternary alluvial plains.

The Queensland Herbarium has refined the mapping of Swamp Tea-tree Forest, to capture smaller remnant and regrowth areas and to re-examine the pre-clearing mapping. The mapping has uncovered *M. irbyana* regrowth within another endangered regional ecosystem in the Brisbane Valley.

The presence of Swamp Tea-tree typifies the ecological community, however, Swamp Tea-tree is itself a threatened species, listed as Rare under the NCA.

The largest remnant of Swamp Tea-tree Forest is located within Ipswich City Council's Purga Nature Reserve. The majority of the remaining Swamp Tea-tree Forest occurs mainly on private land.

There are currently 11 Land for Wildlife properties with remnant Swamp Tea-tree Forest on them with a further 5 Land for Wildlife properties supporting Swamp Teatree regrowth.



Yellow Box (*Eucalyptus melliodora*) woodland near Cooyar. Photo by Bruce Lord.

Box Gum Grassy Woodland *Critically endangered*

Listed as White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland, this community is at the north-east limits of its range where it occurs in SEQ. Only one regional ecosystem in SEQ is included in the EPBC Act listing:

RE 12.8.16 *Eucalyptus crebra* generally with *E. tereticornis* and *E. melliodora* \pm *E. albens* grassy woodland on dry hill slopes on Cainozoic igneous rocks, especially basalts.

Whilst 12.8.16 is widespread in SEQ, Box Gum Grassy Woodland is only a component of this regional ecosystem. To meet the EPBC Act listing criteria, White Box (*Eucalyptus albens*), Yellow Box (*E. melliodora*) or Blakely's Red Gum (*E. blakelyi*) need to be dominant or to co-dominate with each other in the overstorey. Blakely's Red Gum is not found in SEQ and White Gum is only found west of the Great Dividing Range.

Yellow Box within 12.8.16 is limited to higher altitudes, all records occur above 300 m and it is more common above 500 m altitude. The Scenic Rim and remnants of associated basalt flows into the Moreton basin are the typical localities, and there is a patch at the base of the Bunya Mountains.

SEQ Catchments' experience through participation in the Australian Government's recent Box Gum Grassy Woodland Environmental Stewardship project, was that it is difficult to find areas that meet the eligibility criteria, but areas were found.

There are currently 51 Land for Wildlife properties that have RE 12.8.16 mapped on them and which occur above 500 m, so potentially could have areas of Box Gum Grassy Woodland on them.



The Black-breasted Button-quail is listed nationally as vulnerable. This species can be found in littoral rainforest, vine thickets and brigalow ecosystems. Photo by Luke Hogan.

Littoral Rainforest & Coastal Vine Thicket Critically endangered

This ecological community is found within two kilometres of the coast from north Queensland to eastern Victoria and on offshore islands.

In SEQ, the distribution of this community is limited to RE 12.2.2 Microphyll/notophyll vine forest on beach ridges. Its historical or pre-clearing distribution is mapped as only three small areas:

- 61 ha in a long, narrow strip from Main Beach, Southport, south to Burleigh;
- 0.5 ha at Cow Bay on Macleay Island; and
- 1.3 ha near Myora Springs on North Stradbroke Island.

Whilst the Gold Coast strip no longer exists, 60% (0.3 ha) of the Cow Bay patch and the entire Myora Springs patch have persisted. Both are now within Conservation Areas managed by Redland City Council, with small patches on adjoining private land.

Obligations for landholders managing Threatened Ecological Communities

Whilst all remnant vegetation and some regrowth is protected under the VMA, having an ecological community listed under the EPBC Act confers additional obligations for landholders.

Any action that is likely to significantly impact the listed ecological community must be referred to the Minister and undergo an assessment and approval process. There are guidelines to help determine what is deemed a significant impact. In brief, a significant impact is one that is likely to reduce the size, fragment, adversely affect, modify the drainage patterns or groundwater levels or destroy the ecological community. These impacts



Having a threatened ecological community on your property, such as this Swamp Tea-Tree Forest shown, may help landholders become eligible for receiving grants.

could occur through clearing vegetation, building roads, changing drainage, fire, weeds, chemical pollution or fauna harvesting.

Opportunities for landholders managing Threatened Ecological Communities

Landholders with a threatened ecological community on their property are managing areas with national biodiversity significance and may also be meeting state, regional and local priorities. This can bestow eligibility for a range of incentive programs.

For example, with funding from the Australian Government's Caring for our Country and the Powerlink GreenWorks program, SEQ Catchments is currently running a program aimed at improving the extent and condition of threatened ecological communities in the SEQ region. This will provide information and training to landholders on managing these communities and also offers grants to assisting with on-ground activities.

Landholders with threatened ecological communities on their property, or who are managing weeds, pests or fire threats on a neighbouring property, may be eligible for assistance.

There are four steps to gaining assistance:

- 1. Complete an Expression of Interest form and return it by 12 February 2010;
- Attend training to help achieve your property management goals;
- 3. Assist with a site assessment; and
- 4. Develop and submit a project proposal.

For an Expression of Interest form:

Visit:	www.seqcatchments.com.au
Phone:	Ben Barton, 3816 9721; or
	Liz Gould, 3816 9723 / 0400 748 157
Email:	bbarton@seqcatchments.com.au or
	lgould@seqcatchments.com.au

fauna profile

Close eel-counters of a slippery kind... the amazing life cycle of eels.



Article by Nick Clancy Land for Wildlife Extension Officer Sunshine Coast Regional Council

Photographs by Phillip Kerr Victorian Indigenous Seafood Committee



Southern Shortfin Eel.

Babiological island National Park is like by a vast sea of parched Buffel Grass. The sheer sandstone cliffs rise vertically out of the dusty flat landscape near Dingo in Central Queensland. About 15 years ago I called this special place home while working as a ranger with QPWS.

In summer most visitors to the park head straight for Rainbow Falls in order to escape the oppressive heat and dust of the surrounding plains. The permanent waterfall and fern lined swimming hole is perched at about 900 metres above sea level and provides the perfect place to cool off. However this seemingly tranquil environment had a secret lurking deep in the inviting natural rock pool. A high pitched scream echoes off the surrounding cliffs as a startled bather frantically splashes a quick exit from the water. This was a pretty sure sign that the two metre long resident Longfin Eel (Anguilla reinhardtii) had made its presence known!

The eels presence in such a seemingly inaccessible water hole raised the immediate questions of how did it get there and can eels really rock climb? The little I knew about eels was from an occasional attempt at fishing that would result in an encounter with an extremely strong, slippery creature that specialised in turning fishing lines into birds nests. I knew they could travel across flat paddocks between dams in wet weather. But just how this particular eel scaled the sandstone cliffs of the Expedition Range to call Rainbow Falls home led me to seek out some facts on this slippery character.

There are two species of freshwater eels found in Queensland. The most commonly encountered is the Longfin Eel which can reach an impressive 250 cm (20 kg plus) but is more commonly seen at about one metre. As I suspect was the case with the Rainbow Falls individual, they can reach such large sizes if they become landlocked. Longfin Eels are olive-green to brown in colour with irregular spots and blotches, and as the name suggests, have a large dorsal fin. They occur in the coastal catchments of eastern Australia from Cape York to Tasmania. They inhabit swamps, creeks, rivers, drains and dams, generally preferring a moving water body with an undercut bank and snags. As is evident from the above example, they are quite capable of moving overland and around stream barriers.

The second species is the Southern Shortfin Eel (*Anguilla australis*) which can grow to just over a metre but is rarely larger than 50 cm in Queensland. It occurs in east coast streams from the Burnett River south to South Australia. The Longfin Eel can be differentiated from the Southern Shortfin Eel by the spotted body pattern and length of the dorsal fin.

Both eel species are carnivorous fish that are active at night and prey on other fish, crustaceans, molluscs, insects and even small waterbirds. Swimmers need not worry (or shriek) though as eels are not aggressive. Their broad head and large mouth contains plate-like teeth which are considered little threat to humans.

Both species undertake an incredible migration as part of their breeding cycle. Amazingly at this time, both their body shape and colour change. These physical adaptations increase their camouflage and mobility and better equip them for a one way (up to 3000 km) ocean journey of a life time. Mature 'Silver Eels' travel downstream where they pass through the river mouth and out to sea, partially traversing the Pacific Ocean to waters near New Caledonia and Vanuatu. Here spawning takes place deep in the ocean (up to 350 m below sea level). Individual females produce between 5 and 10 million pelagic eggs. Within 2-10 days the eggs hatch into pelagic larvae called "leptocephali". The leptocephali are carried by ocean currents to the Australian continental shelf where they develop into "Glass Eels". These 6 cm long toothless, transparent juveniles are carried into estuaries with the aid of currents and tides.

After about 12 to 18 months they develop pigmentation and functional teeth and are called "elvers". Large numbers of elvers then swim upstream into lakes, swamps and the freshwater reaches of rivers and creeks. This migration takes place during the warmer months and mainly at night. It is during this stage of the migration that they encounter significant physical barriers such as dams, weirs and sandstone cliffs!

Eventually the eels enter a sedentary feeding stage where they generally have a restricted home range of about 300 m or less. Males are more commonly found in the inter-tidal zone while females swim further upstream to reach their preferred freshwater habitats. Here, females will remain for between 15 and 50 years before they return to the ocean to spawn and ultimately die.

If the resident eel at Rainbow Falls makes the pacific migration it will certainly be one hell of a slip and slide ride down from the sandstone escarpment of the tableland! Or perhaps she knows of her intended 'eelfate' and has decided to stay put, gaining enjoyment from scaring unsuspecting swimmers with close eel-counters of a slippery kind?



Aquacultured Longfin Eels are produced for human consumption, producing mostly smoked eel meat for overseas trade and Australian fish markets.



Indigenous stone weir eel trap that is still in use to this day, Mt Emu Creek, Victoria.

The larvae of Longfin Eels are called "Glass Eels". They enter estuaries and migrate upstream to freshwater habitats where they may remain for up to 50 years before returning to the ocean to spawn and die.



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waterways report

Ecosystem Health Monitoring Program

The release of the annual Report Card measuring the health of SEQ's waterways and catchments in October 2009 caused a bit of a stir. The overall health of Moreton Bay declined from a rating of B- in 2008 to a D in 2009. The cause of this decline was mostly due to increased rainfall that transported high loads of sediment and nutrients (diffuse source pollution) into our rivers, estuaries and Moreton Bay.

The increased rainfall helped the freshwater ecosystems of SEQ maintain their grades (as shown in the table below) with some catchments showing improvements in macroinvertebrates and fish. Freshwater streams in urbanised catchments (Lower Brisbane, Oxley and Redland) continue to fail on providing ecosystem processes and functional habitats.

FRESHWATER REPORT CARD GRADES	2008	2009
Noosa Catchment	В	B+
Maroochy Catchment	С	С
Mooloolah Catchment	В	С
Pumicestone Catchment	B+	В
Caboolture Catchment	C+	С
Pine Catchment	D+	C-
Lower Brisbane Catchment	F	F
Oxley Creek Catchment	F	F
Redlands Catchment	F	F
Logan Catchment	D	D
Albert Catchment	B-	A-
Pimpama/Coomera Catchments	B-	B+
Nerang Catchment	B+	В
Tallebudgera/ Currumbin Catchments	A-	В
Bremer Catchment	D-	D+
Lockyer Catchment	F	D
Mid-Brisbane Catchment	В	C+
Upper Brisbane Catchment	D-	D+
Stanley Catchment	B+	B

For a full copy of the Report Card 2009 visit www.health-e-waterways.org or phone Healthy Waterways on 3123 1682.

7

fauna research

Does local restoration benefit small native mammals and reptiles?

Article and photographs by Jesse Rowland University of Queensland Graduate

ocal restoration activities are a great initiative to improve the habitat for a wide range of native fauna, aren't they?

Apparently so, according to a recent study by Jesse Rowland, a University of Queensland (UQ) graduate. The research involved conducting fauna and habitat surveys at 20 sites in the western suburbs of Brisbane, including several Land for Wildlife properties. The aim of the study was to investigate how habitat condition influences the species richness of native small mammals and reptiles in restored areas compared to natural bushland areas.

Fauna surveys were conducted at each site using Elliott, cage and pitfall traps for small mammals, as well as pitfall traps for reptiles. Habitat variables were also measured at each site to determine habitat condition. some of these included: tree species and height, foliage projective cover (also known as canopy cover), girth at breast height and the presence/absence of leaf litter, grass, shrubs and weed cover.

In total, eight native small mammal and five native reptile species were identified during the fauna surveys. Some of these species are considered to be uncommon in Brisbane such as the Fawn-footed Melomys (Melomys cervinipes) and Long-nosed Bandicoot (Perameles nasuta), captured exclusively in restored sites.

For ground-dwelling small mammal and reptile assemblages, canopy cover was found to have a strong influence on species richness. While a lower density of canopy cover favoured reptiles, a higher percentage of foliage projective cover coincided with high species richness for small mammals.

Low weed cover had a positive influence on species richness of ground-dwelling small mammals although reptile species richness was found to be negatively affected by this variable. The results showed that the number of reptile species and individuals were higher in natural bushland sites compared to the restored sites.

The opposite was observed for small mammals, possibly due to the fact that the restored sites provide more structural



"Local restoration activities can benefit the species richness of a diverse range of native fauna by improving and creating habitat..."

components and vegetation cover, thus suiting their habitat requirements.

The main findings that we can use from this research project in local restoration of riparian areas are:

1. Restoration of riparian areas should include dense canopy cover of native species to accommodate the habitat requirements of native small mammals.

2. In the case of reptile species, by providing specialised microhabitats such as a matrix of abundant fallen woody material, native groundlayer vegetation and rocks, these components enhance the habitat to suit their requirements.

3. Low, groundlayer weeds can play a significant structural role in the initial stages of riparian restoration. However, if not controlled and replaced with suitable native substitutes, they can simplify the habitat to the detriment of native fauna species in the long term.

Overall, while the research found similar results to previous studies, it has provided some insights into how local restoration influences native fauna in riparian areas. From the results of this research, it is apparent that local restoration activities can benefit the species richness of a diverse range of native fauna by improving and creating habitat which is suitable to their requirements. So, taking the initiative of local restoration can be very rewarding and worthwhile for our native wildlife.

The Fawn-footed Melomys (Melomys cervinipes) is a semi-arboreal rodent which occurs in gullies and foothills of the D'Aguilar Range. It was one of the significant species captured during field surveys as it is relatively uncommon in the Brisbane area.



The Garden Skink (Lampropholis delicata), one of the most common species inhabiting gardens and bushland in Brisbane, was the most common reptile species captured during the study.



A restored site on a private property in Upper Brookfield. The dense canopy cover appeared to explain the high species richness of native small mammals.

my little corner

Odd Couple Produces Offspring

We recently built a house at Flaxton and as soon as practicable erected nest-boxes near the house, hoping something would take up residence to keep us entertained.

We got more than we bargained for. Almost immediately a Crimson Rosella started taking an interest in one of the boxes. He was always accompanied by a Pale-headed Rosella. They would check out the box and then fly off together. They certainly appeared to be a pair. Neighbours confirmed that they had seen a similar pair around in the previous years (probably the same pair).

The Pale-head Rosella started to spend a great deal of time in the box. We would hear a familiar call and there would be her friend sitting on a branch near the nest. After a couple of minutes she would appear at the hole and they would immediately fly off together.

We were assured by an expert that there would be no off-spring as they were two different species, so we became somewhat despondent, but she was still spending considerable amounts of time in the nest box, and at least twice a day her suitor would call and off they'd fly.

My husband couldn't resist the temptation to check out the nest after the pair had flown off one day, so climbed up and reported that there were four eggs inside. (He had built the nest with a removable roof for just such inspections.) We began to wonder if she was "getting a bit on the side" and in fact had been impregnated by a pale-headed male but our crimson mate was unaware of her dalliance.

A couple of weeks later further inspection revealed four tiny chicks, one smaller than the others. On next inspection only three chicks remained, and their colouring revealed that our devoted male was, in fact, the dad. He was very attentive and assisted with chick feeding.

These three babies continued to thrive and eventually fledged.

Meredyth Sauer Land for Wildlife member Flaxton, Sunshine Coast



The "odd couple" - a male Crimson Rosella and a female Pale-headed Rosella.

Have your reflections on your Land for Wildlife property printed in My Little Corner in 2010 and receive a free *Suburban and Environmental Weeds of South-East Queensland* DVD valued at \$64.90. Send a max. of 200 words and a min. of 3 good quality images to the Editor (details on pg 2).



The male guarding the nest box while the female looks on.



The female guarding the nest box.





The distinctive markings on these three chicks confirm that the Crimson Rosella was the successful father.

ecological restoration

Camp Creek Restoration Project

The Camp Creek Restoration project is a collaborative effort that stretches across five properties on the Springbrook Plateau. Three of the five properties are members of Land for Wildlife. The project will restore three hectares of rainforest and riparian vegetation to improve the water quality of Camp Creek and strengthen wildlife habitat.

At an elevation of 600 metres, located adjacent to World Heritage Springbrook National Park in the Gold Coast Hinterland, Camp Creek is a permanent part of the Gold Coast water supply. Camp Creek runs into Kuralboo Creek which in turn, flows through Springbrook National Park to meet Purling Brook. This connectivity highlights the importance of enhancing and maintaining Camp Creek's ecological health and habitat values, which this project aims to do through the broadening of its riparian and wildlife corridor.

The project aims to plant 20,000 trees that are predominantly locally-sourced, rainforest canopy species which, once established, will recreate some of the framework of Springbrook's unique rainforest biodiversity. Due to this projects proximity to the native seed bank provided by the National Park, once established, this framework will allow, over time, the ongoing natural regeneration of the area.

The Springbrook Plateau was cleared of its native vegetation 100 years ago to make way for pasture for dairy farming. For the last 30 years properties have been used mainly for residential purposes. Land use over the past 100 years has resulted in the degradation of the Camp Creek riparian corridor and the establishment of many environmental weeds.

Efforts by some local landholders over the last 10 years has seen the reduction or elimination of many environmental weeds including Lantana, Crofton Weed, Mist Flower, Japanese Honeysuckle, Cobblers



Pegs, Camphor Laurel and the removal of 200 large Slash Pines. The collective of Camp Creek landholders have now secured an eTree grant in order to fund the current restoration project.

Funding for the eTree program is provided by Landcare Australia Ltd from funds generated by Computershare from Queensland shareholders. This funding is in turn provided to SEQ Catchments, who devolve the funds to local governments, in this case the Gold Coast City Council, who, in-turn, are managing the funds for the Camp Creek Project.

Operating in Queensland since 2004, the eTree program has planted just over 100,000 trees to restore 107 hectares of habitat on 115 properties across SEQ. The Camp Creek project is one of 20 eTree projects currently active in the SEQ region.

The Camp Creek Restoration Project is the largest eTree project in SEQ and is unique because of the collaborative effort from landowners along Camp Creek.

The project commenced in February 2009 and is due for completion in February 2010. Planting of the first 11,000 trees began on 19 October 2009 scheduled to coincide with historically favourable environmental Article by Andrew Barr-David Land for Wildlife member Springbrook, Gold Coast Hinterland

Janine Sigley from SEQ Catchments and Andrew Barr-David conduct water quality monitoring in Camp Creek. Monitoring will track changes in oxygen levels, temperature and turbidity of Camp Creek.

conditions of temperature and rainfall. Whilst planting only occurred in October, planning and site preparation has been undertaken since February.

Planning and site preparation have been an integral part of maximising the potential for success of the project. Weed control and major works have been undertaken on adjoining properties. Remnant vegetation clusters along Camp Creek and the adjoining Kuralboo Creek have been surveyed to identify an appropriate mix of rehabilitation species. Due to the size of the project and the landholders' desire to plant endemic species, were possible, Bush Nuts, a local nursery, has been contracted to collect seed and propagate the plant stock.

The area to be rehabilitated has been divided into 25 plots (called "islands") of approximately 700 square metres.

"Since 2004, the eTree program has planted just over 100,000 trees to restore 107 hectares of habitat across SEQ."

Principles outlined in *Growing Rainforest* by Robert Kooyman have been adopted to each island to restore moist, complex subtropical forests.

Islands have been internally divided into three zones; the centre zone is being planted with tall fast growing light demanders to create an initial canopy to pull up the targeted rainforest species which are planted in the middle zone. The outside of each island is planted with edge species in order to provide protective wind breaks and the sealing of the edges and adjoining remnants.

Out of the 25 plots, 7 test plots have been identified as part of an ongoing research project. The aim of the research project is to quantify if different controlled rehabilitation techniques result in improved establishment of high altitude subtropical species and the natural suppression of undesirable weed species. Suppression of weeds reduces the need for costly weed maintenance.

Each of the test plots has been pre-sprayed with glyphosate to kill the grass and then divided into regions to test three different rehabilitation techniques:

- 1. The ground is left bare and tubestocks are planted into the dead grass.
- 2. The ground around tubestocks is mulched with pine chips (available on site thanks to the Slash Pines).
- 3. The site is seeded with *Dichondra repens*, a native ground cover, to act as a green mulch.

Soil samples have been taken and are analysed prior to planting. Trees are being planted by hand using Hamilton planters in order to minimise soil disturbance. Growth and survival rates, soil ecology and weed infiltration are being monitored across each zone with the aim of refining best practice techniques applicable to this situation.

This project will contribute significantly to the viability of Springbrook, a fragile and ecologically significant part of Australia.

Site inspections are welcome, please contact: Andrew Barr-David 0412 176 394 or andrew_barr-david@bigpond.com



A Computershare initiative with Landcare Australia



Lesley Porter, a neighbouring landholder, helped plant trees along Camp Creek.



A team from Conservation Volunteers Australia helped dig holes for tubestock plantings at Camp Creek.



One of the 200 Slash Pines that have been removed from the Camp Creek site to make way for planting native rainforest species.



Botanist and Springbrook landholder, David Jinks, provided advice on species selection and site planning for the Camp Creek Restoration Project.

Edge Species	Centre Species	Middle Species
Blueberry Lily	Black Wattle	Red Apple
(<i>Dianella caerulea</i>)	(<i>Acacia melanoxylon</i>)	(Acmena ingens)
Palm Lily	Nightcap Wattle	Black She Oak
(Cordyline congesta)	(<i>Acacia orites</i>)	(Allocasuarina littoralis)
Creek Sandpaper Fig	Flame Tree	Hollywood
(<i>Ficus coronata</i>)	(Brachychiton acerifolius)	(Auranticarpa rhombifolia)
Bush Rosemary	Silky Oak	Brown Kurrajong
(Cassinia subtropica)	(Grevillea robusta)	(Commersonia bartramia)
Purple Pea	White Cedar	Broad Leaved Palm Lily
(<i>Hovea acutifolia</i>)	(<i>Melia azedarach</i>)	(Cordyline petiolaris)
Wild May	Red Cedar	Small Palm Lily
(Leptospermum polygalifolium)	(<i>Toona ciliata</i>)	(<i>Cordyline rubra</i>)
Sago Flower	Cudjerie	Jackwood
(Ozothamnus diosmifolius)	(Flindersia schottiana)	(Cryptocarya glaucescens)
Smooth Scrub Turpentine	Flame Tree	Long Leafed Tuckeroo
(Rhodamnia maideniana)	(Brachychiton acerifolius)	(<i>Cupaniopsis newmannii</i>)
Creek Lillipilli	Bennets Ash	Silky Myrtle
(Syzygium smithii)	(Flindersia bennettiana)	(Decaspermum humile)
centi	Native Tamarind	
I	(<i>Diploglottis australis</i>)	
edge - sealing species		Rosewood (Dysoxylum fraserianum)
		Red Bean (Dysoxylum mollissimum)
	Hard Quandong (<i>Elaeocarpus obovatus</i>)	
	Foambark (<i>Jagera pseudorhus</i>)	
middle - rair	Plum Pine	
One of the 25 "islands" that	(Podocarpus elatus)	
Creek showing the three pl about 700 m ² .	Scentless Rosewood (Synoum glandulosum)	

fauna profile

Magnificent Spider



Article and photographs by Stuart Mutzig Land for Wildlife Extension Officer Moreton Bay Regional Council

The Magnificent Spider (*Ordgarius* magnificus) is a common garden spider found in SEQ during the summer months with some amazing and striking features.

The adult spider is about the size of a 50 cent piece; the females having a more impressive appearance than the males, with a mottled white abdomen featuring two yellow notches and orange, red and grey patches.

The Magnificent Spider is genetically related to the orb weaving spiders, but is classified as a bolas spider. Instead of the classic orb weaver's web, bolas spiders dangle a single line of silk from their front legs, tipped with a sticky droplet at its end (called a bola). In the case of the Magnificent Spider, this silk globule contains pheromones that mimic those of a certain female moth. Male moths are attracted to the pheromone, and when they get near, the spider swings the line of silk like a lasso, to ensnare its prey in the sticky trap. The spider then reels in its catch and immobilises it.

The eggs made by female Magnificent Spiders are one of the most spectacular features of this species. Each night of the warmer months the adult female Magnificent Spider spins together a large spindle-shaped egg sac, about 8 to 10 cm in length. The sacs dangle from the underside of a branch, reportedly in clusters of up to seven. Inside each large sac is a smaller sac in which the female has laid her eggs.

Recently, a Land for Wildlife landholder from Burpengary brought in a cluster of eight egg sacs. After establishing exactly who the egg sacs belonged to, we noticed each sac had a small, pin-sized hole in its outer layer. This indicated the work of a predatory wasp.

Upon further inspection, one egg sac contained several hundred tiny infant spiders – spiderlings – about 1 mm long, which were all dead. Crawling around inside the egg sac instead was a small, dark red, insect larva about 4 mm in length. This was the larvae of an unknown predatory







wasp which had devoured the spiderlings. This larva would go on to pupate inside the egg sac and hatch some time later. One of the reasons the female Magnificent Spider lays so many eggs is because of predation by insects such as this wasp. Her high reproductive effort increases the chance of survival of the species.

This is another great example of the balance of nature as observed on a Land for Wildlife property. The closer you look at your own backyard the more you will discover!

For more information on spiders check out the informative Find-a-Spider website which only lists spiders found in South East Queensland and has easy-to-use search fields. Visit www.findaspider.org.au

Or visit another excellent colourful website that has hundreds of photos of local spiders from the Brisbane region at www.brisbaneinsects.com



Egg sacs of the Magnificent Spider. If you look closely at the image above, you can see one spiderling dangling on a thread from the top middle sac.

The inside of the egg sacs showing the fibrous webbing in which hundreds of dead infant spiders and one alive and healthy larvae of a predatory wasp were found.



A juvenile Magnificent Spider hanging a bola thread with which it catches its prey. Photo by Robert Raven, Queensland Museum.

book reviews

Field Guide to the Frogs of Australia

by Michael J Tyler and Frank Knight

This book is the first field guide to cover all species of Australian frogs using illustrations rather than photographs. Illustrations make it easy to compare species quickly as they are shown in similar stances rather than photographs that can vary the stance, light and size.

This is a true field guide in that the information for each species provides only the necessary details for identification such as a distribution map, size, description of physical features, habitat, behaviour and call description. Some similar-looking species are only distinguishable by their call. So learning common frog calls means that you don't have to actually see the frog to know what species is calling.

Only 18 pages of this book are dedicated to an introduction to the 6 families of frogs in Australia and information on frog biology and habitats. The rest of the book provides easy-to-follow descriptions and illustrations of the 227 species of Australian frogs. Each page opening has 2-5 species per opening with the species description on the left and illustration on the right – very easy to use and visually quite stunning. Based on the distribution maps in this book, I counted 50 species for the SEQ region. Of these, there are three species that have evolved very unique traits. Firstly, the Southern Gastric Brooding Frog in the Conondale and Blackall Ranges has a reproductive strategy unique in the whole of the known Animal Kingdom. It swallows fertilised eggs, converting its stomach to a womb and gives birth to fully formed young. Secondly, the male Marsupial Frog found in the very southern parts of SEQ has developed small hip pockets to house its tadpoles. Finally, the Tusked Frog found throughout SEQ is aptly named because of its long spikes (teeth) on its lower jaw. The function of these "tusks" is unknown except that species elsewhere in the world that possess them use them in aggression.

Interestingly, the author, Dr Tyler, believes that Australia may still have at least 13 undiscovered frog species in remote northern regions of the country. The author and illustrator of this book should be commended for such a valuable addition to the list of natural history field guides in Australia. A must have book!



Published by CSIRO Publishing, 2009 Soft PVC cover, full colour, 200 pages ISBN: 9780643092440 Price: \$49.95 Available from CSIRO Publishing and all good bookshops.

Essential Bushfire Safety Tips (2nd edition)

by Joan Webster

The front cover of this book is inviting, the inside pages however are text-book style dot points that come across as repetitive and, dare I say, boring. However, if you can look past the formatting and focus on the text, what you have in front of you is a very handy and potentially life-saving book.

Given the relatively recent Victorian bushfire disasters and the start of another hot summer, the topics of bushfire safety, planning and who is responsible are back on the public agenda. This book is aimed at Australian landholders regardless of whether you own a home amongst the gum trees or a house on the urban fringe. It is a sobering reminder that the majority of bushfire tragedies occur in grassy, leafy outer suburbs of cities.

The crux of the book is that bushfire safety is a personal responsibility. The book's purpose is to enable and empower people who live, work and travel in the bush to know what to do when a bushfire strikes. The book starts by describing fires, how they behave and what the factors are that can lead to property destruction and death. It then lists personal survival tips and discusses the controversial issue of making your house and garden a protective haven from bushfires. The statistics in this book state that more people are injured or killed while evacuating than defending their home and that 99.9% of houses are saved when capable occupants know what to do.

Other topics discussed in this book are planning ahead, protecting stock and pets, managing water supplies and travelling on the roads during bushfires. For the small retail price, this book could potentially be the best investment you make as a rural or peri-urban landholder.

Book Reviews by Deborah Metters Land for Wildlife Regional Coordinator SEQ Catchments



Published by CSIRO Publishing, 2008 Paperback, black & white, 128 pages ISBN: 9780643095359 Price: \$29.95 Available from CSIRO Publishing and all good bookshops.

land for wildlife coordination

Managed

loss

A 2nd Generation Nature Conservation Strategy for Gold Coast City

> Article by Darryl Larsen Land for Wildlife Extension Officer Gold Coast City Council

Often perceived as a city of skyscrapers by the sea, Gold Coast City is actually one of the most biodiverse cities in Australia with half of its land area still covered in native vegetation. The Gold Coast has natural assets ranging from World Heritage-listed Gondwana Rainforests in the southwest to the Ramsar-listed coastal wetlands of southern Moreton Bay in the northeast.

The Gold Coast is now at a critical period in its evolution as a city. With a population nearing 500,000, it is Australia's sixth largest city and one of its fastest growing local government areas. Ongoing pressure on the natural environment prompted Gold Coast City Council (GCCC) to develop its first Nature Conservation Strategy (NCS) back in 1998. Its implementation resulted in significant conservation gains over the last decade including the acquisition of more than 3,500 hectares of strategic land for conservation and engagement with the local community through programs like Land for Wildlife and Voluntary Conservation Agreements.

Having set a benchmark by being one of the first local governments in Queensland to prepare a strategic biodiversity plan in 1998, Gold Coast City is now one of the first local governments in Queensland to develop a 2nd generation NCS. This new strategy reviews existing conservation programs, recommends new programs to meet emerging issues and takes advantage of better information, strong community sentiment and new opportunities.

More importantly, this strategy represents a significant step in a clearly defined and achievable journey being undertaken by the Gold Coast community towards being a truly sustainable city. Specifically it progresses the city along the continuum shown in Figure 1, achieving no net loss of native vegetation cover (a recognised surrogate for biodiversity) within its lifetime and setting a long range vision for net gain through the already planned 2019 NCS.



No nett

loss



In Gold Coast City:

• More than 1672 species of native plants have been recorded, 93 of which are listed as rare or threatened.

• More than 604 species of native animals have been recorded, including 35 species of amphibians, 70 reptiles, 357 birds, 91 mammals and 50 freshwater fish. Of these, 53 species are listed as rare or threatened.

• More than 58 ecosystems types have been mapped and described, ranging from coastal dunes to wetlands to subcoastal eucalypt forests to high elevation rainforests. Of these, 24 are listed as poorly conserved under legislation.

• About 49% is covered by native vegetation, an area about 63,670 hectares.

• About 19% is protected in conservation areas managed either by Council or other levels of government.

View Gold Coast City's new NCS at www. goldcoast.qld.gov.au/ncs





2019 NCS

Net gain



The Mayr's property proudly displays their dedication to nature conservation.

Has Gold Coast's first Nature Conservation Strategy made a difference on the ground?

Over the life of GCCC's first NCS many positive developments have occurred in the protection and management of public and private land across the city. Austinville Valley in the Gold Coast hinterland provides some good examples.

When the NCS was endorsed by Council back in 1998, Austinville Valley contained a mix of rural properties, small acreage residential properties closer to town and, in the more remote upper valley, a few larger private properties with remnant and regenerating native forest. Most of the remaining land was State Forest. A drive along the valley provided quite a contrast. At the start of the valley, disturbed roadsides displayed a variety of environmental weeds including Madeira Vine and Blue Morning Glory. Then came a stretch of grazing properties followed ultimately by beautiful and relatively pristine riparian forest in the upper valley.





GCCC Land for Wildlife Officers, Lexie Webster and Darryl Larsen with Wal Mayr (right).

Heather, Wal and Greta Mayr joined Land for Wildlife in 1999. They have since signed up to a Voluntary Conservation Agreement with Council and their property has been declared a nature refuge. They are very supportive of their fellow residents in Austinville Valley and the wider Land for Wildlife community. Wal was a driving force in the formation of Austinville Landcare. In 2008, their property was one of those featured in the Land for Wildlife 10th Anniversary Open Property days.

Ten years ago nature conservation could hardly be considered main stream in the valley. A small number of mutually supportive landholders like the Mayr family were quietly controlling lantana and other weeds and converting old banana farms and grazing land back to native forest. They learnt how to do it the hard way, mainly by trial and error. It was difficult to see at that time that some of the seemingly intractable environmental problems in the valley like inappropriate or inadequate management of bushland and invading weeds were going to be solved any time soon.

Change began in a small way. The Land for Wildlife scheme was adopted as a recommendation of the NCS and Wal and Heather Mayr, along with some of their neighbours were quick to join. This meant that they became part of a network of conservation-minded landholders extending throughout South East Queensland. The Mayr family hosted Land for Wildlife field days on their property to pass on some of their hard won experience and started to get more people thinking 'I could do this!'

In the meantime another initiative of the NCS, a ratepayer funded levy, allowed for the purchase of extensive and strategic areas of high quality native forest in the valley. At about the same time, but independent of the NCS, the State Forest land was reclassified as Forest Reserve in recognition of its high conservation value. Things were really coming together!

The next step for some of the private landholders was to apply for a Voluntary Conservation Agreement (VCA) with Council to provide a higher level of protection for their properties and financial and resource based incentives to help with management. Three landholders in Austinville valley now have VCAs and two have taken the additional step of having their properties declared nature refuges.

But while individual properties were making great strides, there were still those neglected weedy roadsides and creek banks. The solution was the formation of Austinville Landcare group which has informed and galvanised residents and done an amazing job in controlling some of the worst weed infestations and initiating restoration work. This has been achieved with the support of Gold Coast City Council, SEQ Catchments and an input of federal government funding.

So there has been amazing progress over the life of the first NCS. Large tracts of public land dedicated to nature conservation now adjoin private land protected through VCAs or properties registered with Land for Wildlife where previously conservation land was fragmented and insecure.

Council's management teams now undertake restoration work on conservation reserves side by side with private landholders on adjoining properties. Similar achievements have been recorded in many locations across the city and Councils 2nd generation NCS pledges renewed and expanded support for conservation programs. However, we will continue to rely on the ongoing dedication and enthusiasm of our private landholders to help achieve the targets set by Council's new NCS in the City's journey to sustainability.



While their property was in a fantastic location and had great potential for restoration they knew, in the early days, there was a big job ahead of them. Their beautiful rainforest creek was buried under lantana and it has taken many years of hard work to return it to its former glory. The work continues but the beautiful surroundings now provide ample reward.





Government

Land for Wildlife Regional Coordination is proudly managed by SEQ Catchments with support from the Australian Government.



Photo by Martin Bennett.



SEQ NRM Plan Released

The South East Queensland Natural Resource Management Plan 2009–2031 (SEQ NRM Plan) was recently released. It is a document that sets measurable targets for the condition and extent of environmental

assets and natural resources. Targets in the SEQ NRM Plan are aligned to the desired regional outcomes (DROs) and policies in the *South East Queensland Regional Plan 2009–2031*.



The SEQ NRM Plan sets specific, measurable, achievable, and realistic targets to 2031 in the following areas: Air and atmosphere, Coastal and marine, Community, Land (including agricultural land), Nature conservation, Regional landscapes (iconic areas such as Moreton Bay and the Glasshouse Mountains), Traditional owners and Water.

The result of a collaborative effort by State and local government departments, nongovernment organisations, traditional owners and natural resource management groups, the SEQ NRM Plan has been in development since 2007. More than one thousand people throughout SEQ participated in consultation processes to finalise the Plan.

The SEQ NRM Plan is a strategic document, designed to connect a wide range of existing plans, strategies and actions. The Plan has the opportunity to improve coordination and management of natural resources in SEQ, so that all levels of government, organisations and individuals involved in natural resource management are working towards one set of targets.

The main purposes of the SEQ NRM Plan are:

- To complement and inform the SEQ Regional Plan;
- To inform Local and State Government planning schemes and policies;
- To promote and coordinate planning and activity at regional, sub-regional and property scales; and
- To advise State agencies and local governments in assessing development applications that may significantly constrain the achievement of regional natural resource targets.

Examples of Nature Conservation targets from the SEQ NRM Plan

NC1 – Remnant and woody vegetation. By 2031, the 2001 extent of regional vegetation cover – including remnant vegetation (35%) and additional nonremnant woody vegetation (22%) – will be maintained or increased.

NC2 – Vegetation fragmentation and connectivity.

By 2031, there will be no net fragmentation of larger tracts (greater than 5000 ha) and 20% of priority smaller tracts (less than 5000 ha) will be better connected than the 2003 baseline.

NC4 – Vulnerable ecosystems.

By 2031, at least 4% of the original preclearing extents of vulnerable regional ecosystems will be represented in protective measures. Protective measures include national parks, local government reserves, environmental covenants and voluntary conservation agreements.

Copies of the SEQ NRM Plan can be downloaded from www.derm.qld.gov.au Printed copies can be obtained by emailing SEQRCG@derm.qld.gov.au or by phoning the Dept. of Environment and Resource Management on 3896 3216.

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