

WILDLIFE DIARY

April 2014



Great Finds

Did You Know?

Squirrel glider, *Petaurus norfolcensis* found at Ormiston. This is great news.

Micro-bats found at Thornlands residence. Unfortunately they flew the coop before they could be identified. Next time perhaps.

Did you know SEQ is a sub-tropical and temperate hotspot one of Australia's most diverse areas - and it is the most biologically diverse area in New South Wales and southern Queensland. It has a variety of significant habitats: subtropical rainforest, wet sclerophyll forest, mountain headlands, rocky outcrops and transition zones between forests.

POPULATION MATTERS

Since the amount of fresh water available for human consumption is constant, as population grows the supply of fresh water per person declines. As a result, the amount of water available per person is expected to decline by 74 percent between 1950 and 2050. Nearly half a billion people around the world face water shortages today. By 2025, the number is expected to grow to 2.8 billion people. Of these, at least 1 billion people will be living in countries facing absolute water scarcity.

<http://www.overpopulation.net/>

Did you know higher temperatures are recorded in city centres than in natural surroundings? This urban effect on the superficial thermal field in the city is called a "heat island." It was found that the transpiration of a mature tree corresponds to a refrigerator with a capacity of more than 150,000 thermal units/BTUs per day. A large mature tree is able to transpire 450 litres of water per day. This enables it to consume 1000 MJ of caloric energy in order to carry out the transpiration process, thus lowering urban temperatures. Studies have demonstrated that significant differences exist between the patterns studied in buildings surrounded by green zones, than those without them. In some cases, temperatures can be as much as 4°C hotter and there can be as much as an 11% difference in humidity in areas without green zones.

Butterflies

A number of butterflies can still be seen. **Common Crow**, *Euploea core* and **Evening Brown**, *Melanitis leda*, are still very common at the moment.

Climate Change and Urban areas

Many global risks of climate change are concentrated in urban areas (medium confidence). Steps that build resilience and enable sustainable development can accelerate successful climate - change adaptation globally. Heat stress, extreme precipitation, inland and coastal flooding, landslides, air pollution, drought, and water scarcity pose risks in urban areas for people, assets, economies, and ecosystems (very high confidence). Risks are amplified for those lacking essential infrastructure and services or living in poor - quality housing and exposed areas.



you may be lucky to see this beautiful gliding native species.

Great Walks

A great place to find Squirrel gliders is the Glider Reserve at Alexandra Hills and Days Road Redland Bay. Take a spot light find a tree in blossom and

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Mangrove Report for Moreton Bay

<http://tinyurl.com/kl2rkoq>

Save Toondah Harbour

<http://tinyurl.com/lq9sdlq>

<http://tinyurl.com/kjm9ylw>

Climate Change 2014: Impacts, Adaptation, & Vulnerability

http://ipcc-wg2.gov/AR5/images/uploads/IPCC_WG2AR5_SPM_Approved.pdf

Seagrass - vs - bait worming

Moreton Bay supports 24,000ha of seagrass. The dominant seagrass species is *Zostera capricorni* and it is particularly prevalent along the Western side of Moreton Bay. Seagrass meadows are worthy of protection and careful management as they are considered one of the most productive and dynamic ecosystems in the global environment.

Seagrass is a species limited by nutrients and light and in particular has a high minimum light requirement for survival. It is estimated that 10 – 30% incident light is required for seagrass to survive in anoxic sediments. While natural events can impact upon these seagrass requirements to the extent it results in substantial seagrass loss, it is the growth in the human population that is now considered the greatest threat to seagrass. One human impact is bait worming.

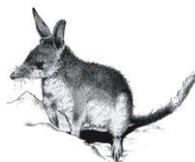
The commercial harvesting of bloodworms, (Polychaeta: *Marphysa* spp.) in Moreton Bay for use as bait occurs predominantly in intertidal *Zostera muelleri* ssp. *capricorni* seagrass beds. Sheltered areas and *Zostera* seagrass meadows provide habitat for Moreton Bay bloodworm species like *Marphysa mullawa*. As bloodworms are a burrowing animal harvesting involves the complete turn-over of the top 20 - 50cm of sediment and seagrass. Due to the low wave and tidal energy in these areas the disturbed sediments and surface do not return to their normal form. Harvesting has caused the loss of seagrass, permanent changes in topography and seagrass species and the mixing and compaction of sediment. Though commercial bait worming in Moreton Bay is a relatively small scale operation the harvesting scars are still visible in aerial and satellite imagery after many years.

Commercial bait worming involves the raising of a wall around an area then digging within the bunded area (pit) with a pitchfork to find and take blood worms. Water within the bunded area is bailed generally with buckets and digging continues until it's flooded by the incoming tide. Recreational bait wormers in contrast, dig short rectangular trenches or at time dig from a central point in a spiraling manner to create circular features.

Prior to changes to the Marine Parks (Moreton Bay) Zoning Plan 1997 commercial harvesting of blood worms (bait worming) was confined to four defined locations totaling 373ha of intertidal habitat. However, since 2009 harvesting has expanded into the General Use (46%) and Habitat Protection zones (30%) within the Marine Park, this represents 76% (340,000 ha) of the Marine Park area. This change in the legally harvestable area equates to a nine fold increase and much of this area incorporates intertidal seagrass meadows never before exploited. Since 2009 over 30ha of pristine seagrass has been over-turned by bait worming activities resulting in a loss of seagrass biomass and therefore impacting on biodiversity and fishing resources.

Current research has found commercial harvesting changes the seafloor surface and sediment. It has also highlighted that bait worming moved coarse material and anoxic sediments to the surface where they are oxidized and release pollutants. In one reported instance, intensive harvesting resulted in an accumulation of heavy metals in the surface sediment and invertebrates. Bait worming also resulted in sediment compaction and disrupted seagrass recruitment. The consequence of bait worming activities was the loss of seagrass biomass with the impacted area changing little over a 24 month period.

Never doubt that a small, group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has. Margaret Mead.



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