



Mangrove Watch

Newsletter No. 6

September 2011

WELCOME

The October November monitoring period for Mangrove Watch is fast approaching, so remember to book your survey kit well in advance.

There are a few changes to note with regards to contacting us at MangroveWatch. Nick Hoffman has unfortunately had to leave us but is happy in his new position at Daisy Hill chasing Koalas.

Any queries should now be sent to seagrassmb@gmail.com where Alix can organise with you times for kit pick-ups and so on. The kits will still be available from the Manly Marine Parks Office.

Please note that there are very limited numbers of good tide times for this coming period and only a couple of viable weekends, so be sure to plan and book ahead.

We have recently updated our website so jump on the net and have a look. Any problems with it let us know.



Be sure to send us any interesting photos that you've taken and we'll put them on the website.

Contacts

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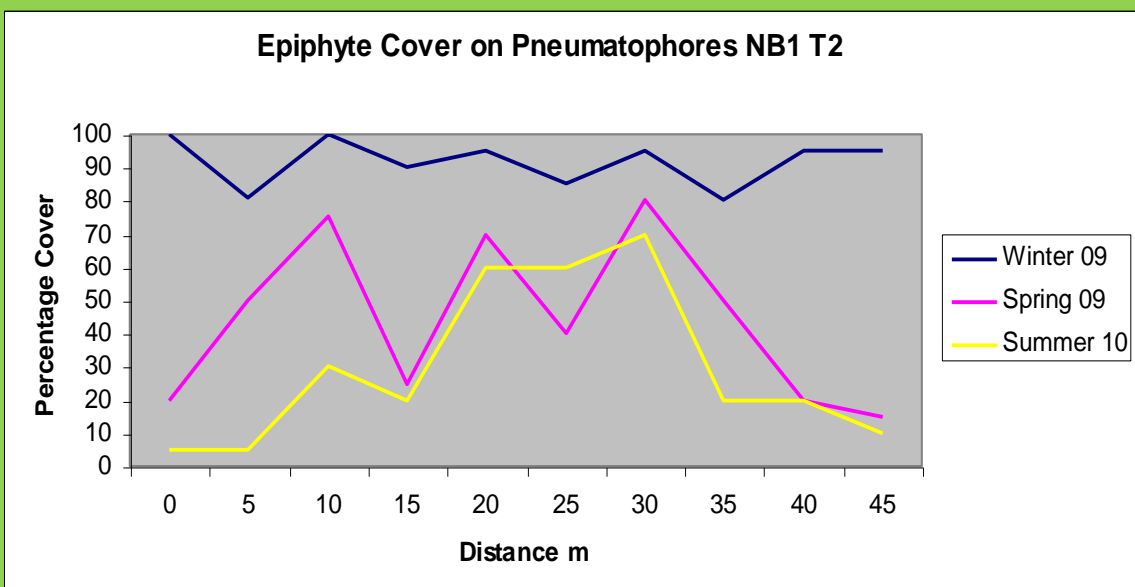
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Mangrove Trends

Epiphyte cover on pneumatophores is one feature that had been showing a potential seasonal trend. While percentage cover for different sites varies, epiphyte cover in winter is beginning to show higher percentages across transects and across sites. This is consistent with the findings made by Saifullah and Ahmed (2007) who found epiphytic algal on grey mangrove, *Avicennia marina* were more common in shaded areas and also during colder months. The below graph shows the seasonal variation that has been recorded for transect 2 at the Nudgee Beach site.

Epiphytic algae grows abundantly on the pneumatophores of *Avicennia marina* in shaded areas of mangrove stands near the low water mark, which indicates that they avoid both exposure and desiccation (Saifullah and Ahmed, 2007). Twilley et al (1985) also showed nutrients influenced Epiphytic algae growth and Naidoom et al (2008) work shows Epiphytic algae may themselves influence growth. It is thought Epiphytic algae share a mutualistic relationship with mangroves (Naidoom et al, 2008). Research showing that epiphytic red algae may be responsible for high rates of photosynthesis and it is postulated that some photosynthates may reach the mangrove tissues via the holdfasts (Naidoom et al, 2008). It's not surprising then that epiphytic algae are considered an important source of energy in the mangrove ecosystem (Saifullah and Ahmed, 2007). These factors add weight to the reasoning to place great importance in monitoring Epiphytic algae. Future monitoring will be more cognisant of topography and those variables that may influence Epiphytic algae abundance and thus help explain their variable growth patterns.

Their presence and absence may also explain variations in mangrove health a view shared by Melville and Pulkownik (2006). The distribution of the Rhodophyta species, *Catenella nipae* Zanardini significantly decreased as metal concentrations increased among the estuaries during seasonal surveys, it's a species that shows strong potential for use as a bio-indicator of estuarine contamination Melville and Pulkownik (2006). Many Mangrove Watch sites are adjacent to urban areas or have creek systems and or stormwater outlets draining into them. It's important to note that with urbanisation will come impermeable surfaces and therefore increased pollutants entering waterways (Nilon, 2009; Eason et al, 2009). Sartor et al (1974) highlights this point by showing runoff from street surfaces is generally highly contaminated and in general, street runoff is a greater pollutant than sanitary wastewater, at least during storms. It is likely during cyclical weather events, as shown, and with increased nutrient loads coming from the urban environment, may have resulted in favourable conditions for Epiphytic algae. To understand these influences Mangrove Watch will direct effort to mapping stormwater outlets and creek systems in and around Mangrove Watch sites.



Mangroves: Why so important?

Mangrove species are an extremely important part of estuarine ecosystems and provide a number of invaluable ecosystem services. During the last century there has been an unprecedented loss of natural mangrove ecosystems (Bosire et al., 2008; Nagelkerken, 2008). Population pressure on coastlines worldwide has increased mangrove clearing and degradation significantly (Walters et al., 2008).

As one of the most productive ecosystems worldwide, they provide habitats for many marine vertebrates and invertebrates (Nagelkerken, 2008). Furthermore they also provide an important food source and shelter for terrestrial species. Fish and prawn populations would dwindle without mangroves which provide a nursery for their juveniles (Baran and Hambrey, 1998). Many shore birds also use mangroves as roosting and shelter sites (QLD Museum, 2011).



A Baltais, 2011



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In the current age of carbon taxes and anthropogenic climate change, mangroves also have their role to play. Like any vegetation they sink carbon from the atmosphere and store it, in fact over the period of a year a hectare of healthy mangrove forest will sequester 1.5 tonnes of carbon (Mangrove Action Project, 2011). Conversely, mangrove soils which have been disturbed release over 11million tonnes of carbon per year (Mangrove Action Project, 2011).

A Baltais

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MangroveWatch surveys are undertaken three times a year. The **October/November 2011** monitoring period is upon us and there is a limited number of good tide times - see tide times opposite (Brisbane Bar). Those who have been trained and have sites established should choose from the very limited number of days and email Alix at seagrassmb@gmail.com to book a kit.

Please give plenty of notice (at least a week).

Good Tides

| Month | Day | Time/height in metres |
|---------|-----------|-----------------------|
| October | Sat 08 | 1304 0.53 |
| | Sun 09 | 1350 0.48 |
| | Mon 10 | 1432 0.46 |
| | Tue 11 | 1509 0.45 |
| | Wed 12 | 1545 0.46 |
| | Thu 20 | 0822 0.67 |
| | Fri 21 | 0945 0.66 |
| | Sat 22 | 1103 0.59 |
| | Sun 23 | 1212 0.48 |
| | Mon 24 | 1316 0.39 |
| | Tue 25 | 1415 0.35 |
| | Wed 26 | 1512 0.27 |
| | Thu 27 | 1605 0.26 |
| | November | Fri 18 |
| Sat 19 | | 0915 0.67 |
| Sun 20 | | 1033 0.65 |
| Mon 21 | | 1148 0.59 |
| Tue 22 | | 1258 0.51 |
| Wed 23 | 1403 0.43 | |
| Thu 24 | 1502 0.38 | |
| | Fri 25 | 1558 0.34 |



The Cleveland MGW team

Thank you

Thankyou to all volunteers for generously giving their time to this valuable community monitoring program.

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Disclaimer: The views expressed in this newsletter are those of the writers and not necessarily those of the Queensland Government or Wildlife Queensland.

Take care with a turning tide late in the day, and ensure you have sufficient time to complete your monitoring

