

Seagrass-Watch Moreton Bay



Newsletter No.34 – February 2011



Introduction

The next monitoring season is here. It's time to plan another outing to monitor your seagrass meadow. Recent flooding has had an effect across Moreton Bay it is important to keep up monitoring to aid recovery efforts

Increased nutrient runoff after extreme weather events and floods may lead to increased algae blooms. When monitoring your seagrass site you make an assessment of the percent cover of algae (macroalgae). The identification sheet in your SGW kit covers some of the more commonly encountered algae. Use this to help ID the species, particularly *Lyngbya majuscula*.

The next Seagrass monitoring training day will be Saturday 2nd April 2011 at Wellington Point. This is where new volunteers acquire the skills for data collection. It is also a good way to refresh techniques for those who want it. If you want to attend or if you know someone who does, Email Nick for more information.
nick.hoffmann@derm.qld.gov.au

Visit 'Seagrass volunteers Moreton Bay' on Facebook. This new web presence is developing a following and will build in time to an excellent resource for volunteers.

Websites:

www.wildlife.org.au/seagrasswatch/index

www.seagrasswatch.org

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Inside this issue:

This is page 1.

Page 2 has an important article by Simon Baltais.

Turn to page 3 for a list of good tides for monitoring. Remember to book kits in advance.

Page 4 has the Quick Seagrass-Watch Reference Guide to Monitoring Techniques.



Blue Blubber jelly fish (*Castostylus mosaicus*) swimming on the Amity Banks. Photo by Nick Hoffmann

Queensland Parks and Wildlife Service

**Marine Animal Strandings telephone
hotline: 1 300 130 372**

Save the number in your mobile phone.



After the flood

A taskforce of scientists from a range of organisations in the fields of marine ecology, remote sensing, modelling, water quality monitoring, geomorphology and hydrology are out in Moreton Bay to answer two big questions:

What is the initial impact on the waterways & Moreton Bay?

How long will it take for Moreton Bay to recover?

Seagrass-Watch and Mangrove-Watch will be playing their roles in helping answer these questions. Therefore, we believe it's very important that as many of our sites as possible are monitored during the up and coming monitoring season.

Worldwide seagrass meadows are responsible for about 15% of total carbon storage in the ocean*. An enormous contribution of great value to natural systems.

With over 80 monitoring sites across Moreton Bay and the Gold Coast, Seagrass-Watch and Mangrove-Watch are well placed to help understand what is going on in the bay after the floods.

The flood has also raised many questions about how we best manage our urban and rural catchments and creates opportunities to design for greater resilience to future rainfall events.

However, we do know that:

- There are likely to be human health implications regarding recreational use of waterways and fishing.
- Flood waters will increase turbidity (or the amount of sediment/soil) in our waterways and Moreton Bay
- Large plumes of soil will move into mangrove areas and Moreton Bay. In time these deposits will settle and may smother seagrass and corals. Dugongs, turtles, birds and other marine life dependant on seagrass as a food source could be at risk
- The elevated nutrient levels carried in flood waters could lead to outbreaks of algae after the waters clear of suspended sediments
- Slumps in dissolved oxygen levels, as a result of increased organic matter that decomposes, could result in localised fish kills.

Moreton Bay has been put under severe stress from recent flooding events. We need to know what is going on to help make the right management decisions to bring it back to a healthy state.

For all these reasons your help this monitoring season will be one of the most valuable to date. We look forward to seeing you on the mudflats and helping the scientists answer those questions.

Simon Baltais

*http://www.marineclimatechange.com/marineclimatechange/bluecarbon_2_files/carbon_management_report_final_printed_version_1.pdf

Mudflat spotlighting

We conduct mudflat spotlighting trips on an opportunistic basis, so we invite you to let us know if you would like to do one of these trips at your own site. This is a great way to see the hordes of bizarre creatures that utilise your site at night. Please contact Nick to arrange one of these evening events.

Seagrass surveys

Seagrass-Watch surveys are undertaken three times a year (March-April, July-August and November-December). The **March - April 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 set up at sites should select a suitable day and contact Nick your SGW Co-ordinator to book the equipment. Ph. 07 31312861, Email: nick.hoffmann@derm.qld.gov.au

Please give plenty of notice when making a booking.

Thanks

A big thankyou to all the volunteers for generously giving their time to this valuable community monitoring program.

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Seagrass-Watch Moreton Bay

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

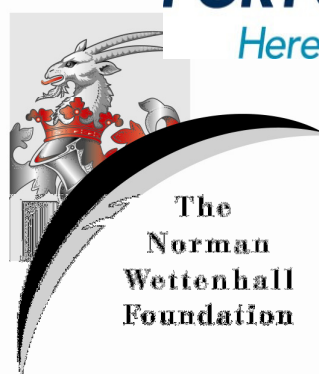
Good Tides...

Month	Day	Time/height in metres
March	Tue 1	1408/0.61
	Wed 2	1447/0.55
	Thu 3	1521/0.51
	Fri 4	1551/0.49
	Sat 5	1618/0.46
	Wed 16	1320/0.59
	Thu 17	1411/0.45
	Fri 18	1457/0.34
	Sat 19	1539/0.26
	Sun 20	1618/0.21
	Fri 25	0813/0.73
April	Tue 29	1245/0.68
	Wed 30	1329/0.60
	Thu 31	1406/0.54
	Fri 1	1439/0.49
	Sat 2	1509/0.45
	Sun 3	1538/0.42
	Mon 4	1606/0.41
	Wed 13	1141/0.64
	Thu 14	1241/0.51
	Fri 15	1333/0.39
	Sat 16	1420/0.29
May	Sun 17	1503/0.23
	Mon 18	1544/0.21
	Sat 23	0800/0.69
	Tue 26	1101/0.73
	Wed 27	1153/0.67
	Thu 28	1238/0.59
	Fri 29	1317/0.52
	Sat 30	1353/0.47
	Sun 1	1427/0.43
	Mon 2	1458/0.40
	Tue 3	1530/0.39
Wed 4	1602/0.40	

Wildlife Preservation Society of Queensland
Bayside Branch (Qld) Inc

Ecosystem Health Monitoring Program

SEQ Catchments
Healthy land – healthy water



Quick Seagrass-Watch Reference Guide to Monitoring Techniques:

- Sediment description:** Dig your fingers into the top centimetre of the substrate and feel the texture. Describe the sediment by noting the grain size in order of dominance (e.g. sand, fine-sand, fine-sand/mud, mud/sand, mud/coral rubble). It will reduce confusion if we record the sediment in this way, taking care to list the sediment types in order from most to least dominant sediment type. For example, if the sediment is more muddy than sandy, then it is recorded as mud/sand.
- Other organisms:** If possible, be more specific about the number and type of other organisms present within quadrats. For example, information about the distributions of predatory versus algal-grazing gastropods is potentially important. Identification of other organisms should only be taken to the individuals' skill level, i.e. if you know what it is then write it down.
- Water depth:** We would like to start recording the depth of water present in each quadrat. Please measure the depth of water (in centimetres) in each quadrat and record it in the comments (if there is no water, please also make a note of this).
- Photographs:** These are to be taken at 5, 25 and 45 meters along each transect instead of 10, 25 and 40 meters. Please take the photo from as vertical as possible and make sure to include the three items: the tape, quadrat and quadrat identifier.
- Estimating percentage seagrass cover:** Always use the percentage cover photo guide to narrow down seagrass cover estimates. Also, please be more specific with estimates, especially if the cover is less than 50% (i.e. do not simply round off to the nearest 5%). Never use greater- or less-than symbols (i.e. '<' or '>').
- Seagrass canopy height:** When measuring the seagrass canopy height, please take care to select seagrass blades randomly and not to focus on the three longest blades. Seagrass-Watch HQ in Cairns advise ignoring the top 20% but if you have some other sort of system that works for you (e.g. always taking samples from roughly the same three points within the quadrat) then continue.
- Seagrass species composition:** Estimate the least dominant species first, up to 100%. This is useful for quality assurance/quality control (QAQC) procedure as some people have trouble adding up. If we have this system of writing down the least dominant species first then we can generally work backwards to get the percentage composition. Try and use several diagnostic characteristics for species identification (e.g. blade shape, leaf venation and rhizome structure/colour), not only one.
- Macroalgae:** Please record anything that is not attached to the seagrass and keep separate from seagrass cover, i.e. it is possible to get 100% cover for both seagrass and macroalgae if drift algae is covering the entire quadrat. In this case one must lift up and remove the drift algae in order to measure the seagrass.
- Epibionts (epiphytes versus epizoans):** Epiphytes are algae attached to seagrass blades and often give the blade a furry appearance. Epizoans are sessile animals attached to seagrass blades (e.g. ascidians or anemones growing on seagrass blades). Please do not include epizoans in with the estimation of epiphytes. Record the presence of epizoans in the comments or an unused/blank column. Also, we need to measure epiphytes more accurately, as a percentage cover, and not just within the three categories: low, medium and high. There is a new protocol for this, for example: if 20% of the seagrass blades are each 50% covered by epiphytes, then quadrat epiphyte cover is $[(20 \times 50) / 100]$ 10% (there is a matrix to help with this process, available to download at <http://www.seagrasswatch.org/monitoring.html>, under Quarterly Monitoring, Step 8. estimate epiphyte % cover). The values of percentage epiphyte cover may be lumped prior to data analyses but when and how to do this is for a statistician to decide.
- Seagrass resilience (seed bank) sampling:** For those who are keen we can provide training in assessing the *Halodule* seed bank reserve and thus the resilience of this species. Thirty core samples are taken within each site and training will be provided if you would like to give this a go.