

Seagrass-Watch Moreton Bay



Newsletter No.35 – July 2011



Introduction

The winter field season, July August, is underway. And this edition of the Seagrass-Watch Moreton Bay newsletter is finally here. Don't forget to pass it on to friends and colleagues who are interested in seagrass. Even if they don't know it yet. SGW Moreton Bay relies on existing volunteers and always needs new people to take up a quadrat or a clip board and get involved.

The next training day is not far off. See the box below for details and bring you friends.

All are welcome.

The next Seagrass monitoring training day will be at 1330hrs Saturday 13th August, 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:

Pages 2 and 3 ask the question 'How long does a seagrass meadow take to recover?'

Page 4 deals with the pressing issue of tidal art.

Page 5 has the usual information including Good Tides.



Queensland Parks and Wildlife Service

Marine Animal Strandings

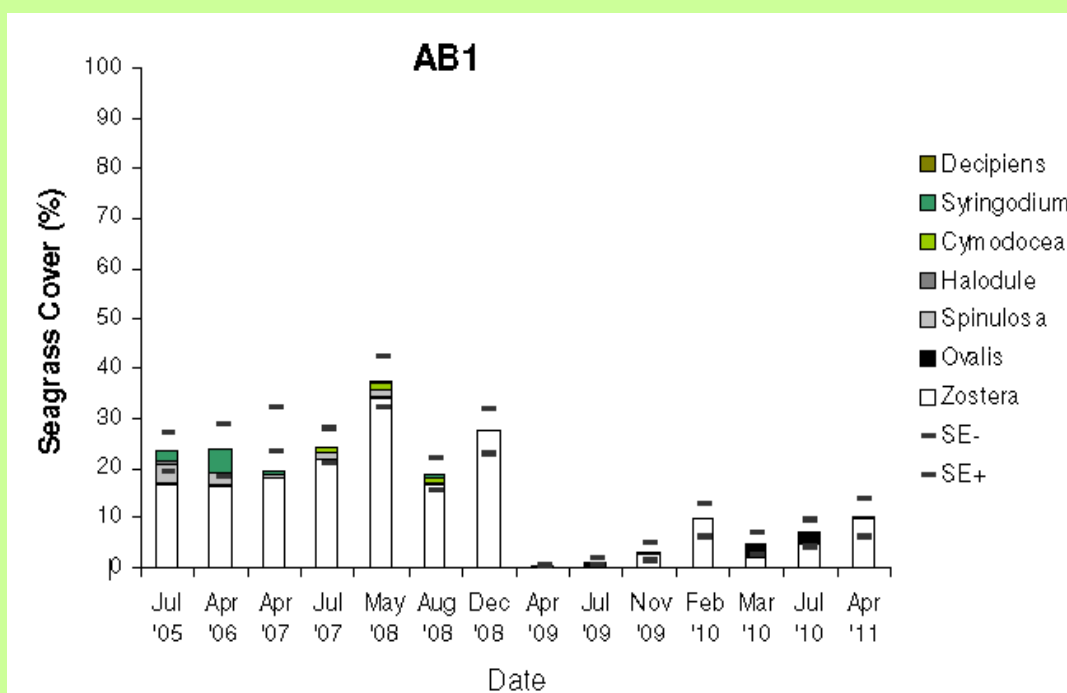
telephone hotline: 1 300 130 372

Save the number in your mobile phone.



How long does a seagrass meadow take to recover?

- This example from site AB1 at Amity Banks, Moreton Bay shows very clearly the sequence of recovery for a site that was denuded of seagrass.
- The photos on the following page show a sequence from before the event, lots of seagrass, to completely bare following storm action shifted the sand, and the subsequent recovery.
- The graph below brings together data collected by the AB1 volunteers over 6 years spanning the event. An excellent illustration of how numbers (data) can tell the story as clearly as pictures.
- A key part of this successful recovery is the presence of a seed bank in the substrate below the leaves. Within the range of roots and rhizomes is an accumulation of seeds: Seed bank. When this is intact, the seagrass will recover.
- Where there has been major mechanical disturbance of the sediment and the seed bank is removed like dredging for canal construction or even a cyclone, the recovery pictures would show a very different picture.
- Earlier examples from Hervey Bay show seagrass beds smothered by flood sediments taking up to two years to recover. An article in **Aquatic Botany** 'Flood and cyclone related loss, and partial recovery, of more than 100km² of seagrass in Hervey Bay, Queensland, Australia' (volume 52, September 1995) explains the events at Hervey Bay in more detail. Look it up if you want to read more.



The Graph AB1 shows % seagrass cover over time from July 2005 to April 2011.

A marked drop in seagrass cover in April 2009 follows a storm on the 11th of March. The following months record increasing seagrass cover. Seagrass species diversity is also shown. Diversity changes with the shift from an established meadow to one in recovery.

This sequence of photos shows the recovery over time of the site AB1 after a storm in 2009 left no seagrass to be found.

May 2008



April 2009 – after 11th March storm



March 2010



11th July 2010



April 2011



Thanks Simon and Debra Henry for the great photos.



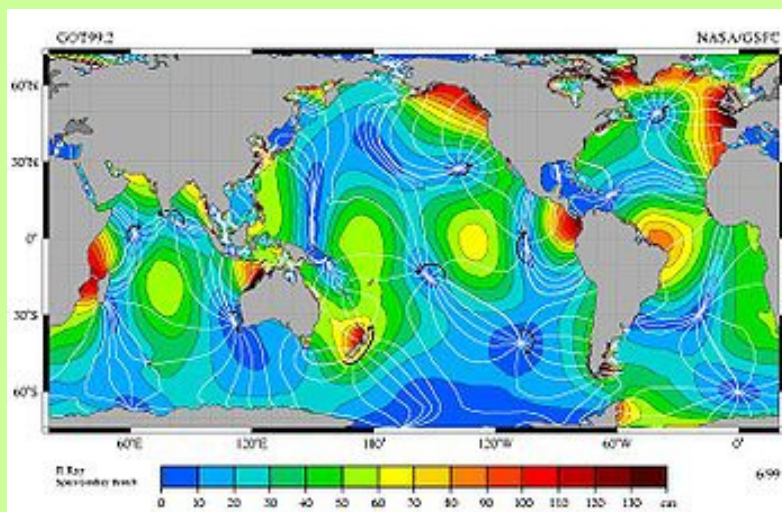
Tidal Art

Tides

Occasionally a volunteer contacts the coordinator to discuss tides. A great topic. The last page of this newsletter always includes a list titled 'Good Tides'. These have been selected based on a tide height less than 0.7m and during daylight. The result is a set of days that omit many in between. If you are planning your monitoring but are tempted to try dates not in the 'Good Tides' list you may want more detailed information.

Maritime Safety Queensland publishes the booklet 'Queensland Tide Tables'. This is what the coordinator consults when compiling Good Tides. It is cheap and full of extra information about using tide tables.

Alternatively, online the **Bureau of Meteorology web site is also an excellent source:** <http://www.bom.gov.au/oceanography/tides/index.shtml>



If you are thinking of planning a monitoring session further afield, this chart of global tidal amplitude might help. Available on line <http://en.wikipedia.org/wiki/Tides> 8/07/2011.

Art

Seagrass can often be found washed up on the shore or even onto the footpath along the foreshore but have you ever seen seagrass as a permanent public art installation? Well since a few months, in Long Beach USA you can find an example 10m tall!

But which species is it and what is the epiphyte count?

Sea Grass by Barbara Grygutis

Photo accessed: www.everythinglongbeach.com 8/07/2011



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 **July - August 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.

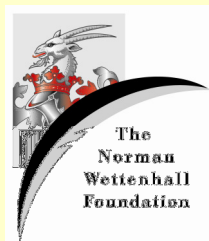
Compiled by: Nick Hoffmann

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
July	Tue 12	1253/0.36
	Wed 13	1349/0.33
	Thu 14	1440/0.32
	Fri 15	1524/0.32
	Sat 16	1604/0.35
	Fri 22	0753/0.55
	Sat 23	0837/0.59
	Sun 24	0932/0.62
	Mon 25	1035/0.61
	Tue 26	1138/0.55
	Wed 27	1236/0.47
	Thu 28	1328/0.38
	Fri 29	1417/0.30
	Sat 30	1504/0.24
Sun 31	1550/0.21	
August	Fri 05	0729/0.33
	Sat 06	0816/0.39
	Sun 07	0913/0.45
	Mon 08	1021/0.48
	Tue 09	1134/0.47
	Wed 10	1243/0.42
	Thu 11	1341/0.37
	Fri 12	1430/0.34
	Sat 13	1512/0.33
	Sun 14	1548/0.35
	Sat 20	0702/0.50
	Sun 21	0740/0.57
	Mon 22	0832/0.63
	Tue 23	0942/0.65
Wed 24	1058/0.60	
Thu 25	1205/0.50	
Fri 26	1304/0.38	
Sat 27	1358/0.28	
Sun 28	1448/0.20	
Mon 29	1538/0.16	
September	Sun 04	0743/0.41
	Mon 05	0843/0.51
	Tue 06	1001/0.57
	Wed 07	1122/0.55
	Thu 08	1231/0.49
	Fri 09	1328/0.42
	Sat 10	1414/0.38
	Sun 11	1454/0.37
	Mon 12	1530/0.38
	Tue 13	1604/0.41



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.