

Seagrass-Watch Gold Coast



Newsletter No. 3 – March 2010



Monitoring time is here

Websites:

<http://www.wildlife.org.au/seagrasswatch/index.html>

<http://www.seagrasswatch.org>

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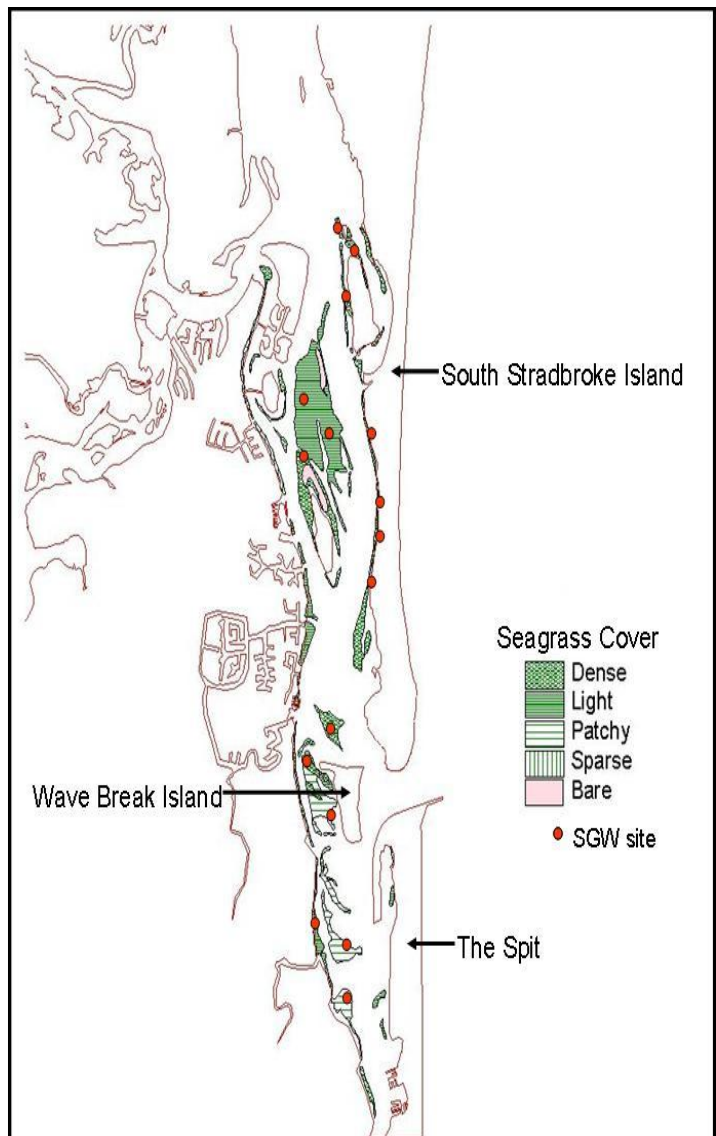
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Map of The Broadwater showing potential sites



Here is the first newsletter for 2010 and it is gearing up to be a very exciting year for Seagrass-Watch Gold Coast.

With new sites being established from Currumbin & Tallebudgera Creeks in the south to Brown Island in the north, now is a good time to get onboard and get in touch with Daniela and ask about adopting a seagrass site in your area. Opposite is a map of the Broadwater showing potential sites currently being investigated.

Now would also be a good time for existing volunteers to have a look at the 'Good Tides' on the second last page, pick a suitable day that suits their group and book a kit with Daniela for the up and coming March - April monitoring period. There are plenty of suitable low tides for monitoring with 48 days in total, 14 of which fall on the weekend.

It would be great to get as many of our sites monitored as possible and continue establishing good baseline data sets. Check out some of our sites in the photos below;

South Stradbroke 1



Currumbin Creek 1

I look forward to joining many of you out there in the field monitoring our precious seagrass meadows, until then;

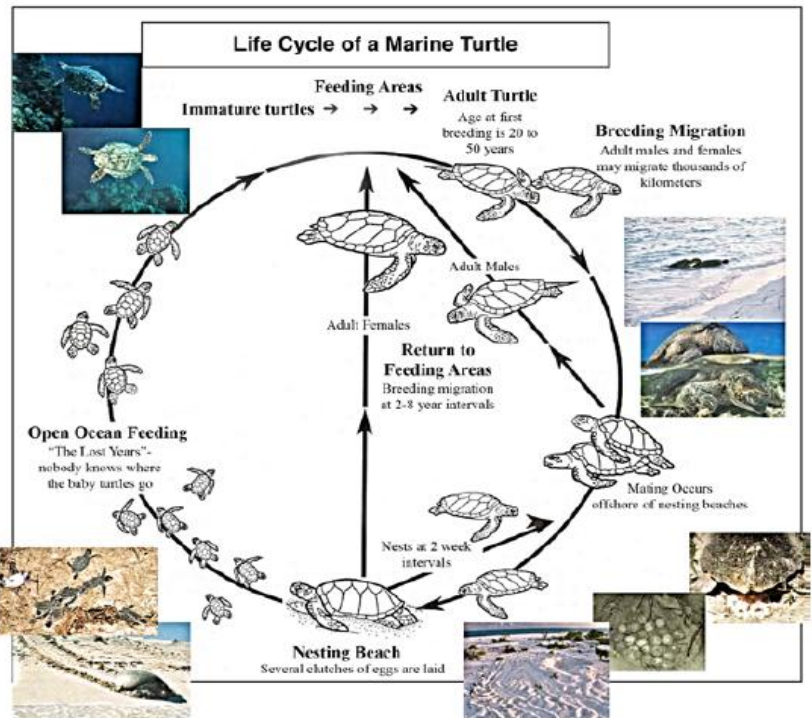
Happy Seagrass-Watching, Daniela

Turtles on South Straddie!

(Adapted from Kinch, J. 2003 MBP CMCP. All photos by J.Kinch)

The east coast of Australia stretching from mid/northern NSW to far north Queensland (Cape York) provides suitable nesting locations for six species of marine turtle and the eastern beach of South Stradbroke Island is one of them being a confirmed nesting location for both green turtles (*Chelonia mydas*) and loggerhead turtles (*Caretta caretta*) and thereby providing important habitat for nesting and foraging sea turtles, including seagrass meadows.

Green turtles and loggerhead turtles are listed internationally as endangered according to the 'IUCN Red Book of threatened species'. In Australia, the loggerhead turtle is listed as endangered, meaning it may become extinct if threats to its survival continue while the green turtle is considered vulnerable and may become endangered.



A sea turtle's adult lifecycle is spent largely in foraging grounds and mating occurs close to nesting beaches, generally in lagoonal habitats. All species of sea turtle share a common nesting behaviour, including; emerging from the ocean, moving up the beach to excavate a body pit and egg chamber before laying eggs, filling in the egg chamber with sand and returning to the ocean. Hatchlings emerge after 1-2 months of incubation and migrate to deep oceanic areas, nobody knows exactly where they go, but they spend between 5-20 years there before returning to shallow near-shore feeding areas until they reach sexual maturity between 30-50 years of age.

The sex of hatchlings is directly influenced by temperature, with females being produced at higher incubation temperatures and males being produced at lower incubation temperatures. The 'pivotal temperature' is the temperature which produces a 50:50 sex ratio, generally considered to be 29°C however, variability does exist between species. South Stradbroke Island is considered an important habitat for the production of male hatchlings.

South Stradbroke Island is on the southern sea turtle habitat boundary on Australia's east coast and is therefore subject to greater sand temperature fluctuations than nesting areas closer to the equator. However, climate change impact predictions and a possible trend of increasing sand temperatures highlight the need to continue research into nest temperature trends, movement patterns of nesting sea turtles and the impacts of climate change on southern sea turtle habitats (east coast of Australia). Griffith University researcher Andrew Cuttriss is currently undertaking research into the movement patterns of green turtles by attaching Platform Terminal Transmitters onto four green turtles to determine their habitat range within the broader Gold Coast region.

As impacts on sensitive marine areas are still relatively unknown and human activity within the coastal zones of south-east Queensland continues to increase, causing concern for the long term viability of both green and loggerhead turtle populations, it becomes critically important to identify marine turtle nesting and foraging habitats within south-east Queensland to effectively manage these sites and alleviate current and future threats to sea turtle populations.

Seagrass friendly moorings trialled in Moreton Bay

Primary Industries and Fisheries scientists are trialling alternative, environmentally friendly, boat mooring systems in Moreton Bay. Part of the trial includes monitoring by Seagrass-Watch Moreton Bay. At each site two 100m subtidal (underwater) transects are monitored. One transect is amongst the moorings and the second is nearby but outside of the area effected by the moorings. The monitoring began before the installation of the alternative systems. All of these transects are underwater in all tides, so the monitoring is done by breath-hold diving with mask and snorkel. The snorkel-scientists repeatedly descend up to 8m deep to assess each quadrat. Data on % seagrass cover and species composition are recorded for comparison of before and after the installation of the alternative mooring systems.

Traditional mooring installations tend to drag a large chain around on the bottom. This causes a halo of damage to seagrass and other plants around the anchor point. This damage is visible from the air as seen in the photo below.



Halo of damage to seagrass around boat moorings.

<http://www.seagrasswatch.org/news.htm>

19-02-2010

You can find details of the different types of moorings being trialled at:

www.seaflex.net

www.ezyridermoorings.com

www.seagrassmooring.com.au

Four sites are hosting the trial of alternative mooring systems:

Tangalooma, Moreton Island

One Mile, N. Stradbroke Island

Dalpura Bay, Macleay Island

Point Halloran.

***Seagrass-Watch
Moreton Bay
staff have been
holding their
breath in the
name of science!***

This project involves cooperation with many organisations including:

Queensland Parks and Wildlife Service

Department of Employment, Economic Development and Innovation Primary Industries Fisheries

SEQ Catchments

Tangalooma Island Resort

Department of Environment and Resource Management

Maritime Safety Queensland

University of Queensland

Seagrass-Watch

Moreton Bay





BeachCare's Clean Up Australia Day

Sunday 7th March, 9am-11am.

We can make a difference to ensure our coastline stays healthy and beautiful. Come along to one of BeachCare's Clean Up Australia events (see calendar below for venues) and be part of Clean Up Australia Day's 20th Anniversary Campaign.

All equipment & refreshments provided, just wear appropriate clothing, closed in shoes, hat & sunscreen.

Visit www.cleanupaustraliaday.org.au for more information and to register for either site.

BeachCare Calendar March 2010 – June 2010 Calendar

	<u>Runaway Bay</u>	<u>Paradise Point</u>	<u>Mermaid Beach</u>	<u>Palm Beach</u>	<u>North Kirra Beach</u>	<u>Labrador</u>	<u>North Kirra Beach</u>	<u>Rainbow Bay</u>
	Constance Esp	Opp. Abalone Ave	Peerless Ave	27th Ave	South of N. Kirra SLSC	Harely Park, North of Charis Seafood Labrador Residence Action Group	Corner of Pacific Parade & Musgrave Street Surfrider Foundation	Marine Parade Friends of Rainbow Bay
March	Saturday 27 th 9am-11am	Sunday 7 th 9am-11am Clean up Australia Day! Saturday 20 th 9am-11am		Sunday 7 th 9am-11am Clean up Australia Day!			Sunday 7 th 9am-11am Clean Up Australia Day!	
April			Saturday 17 th 1.30-3.30pm	Saturday 24 th 9am-11am	Saturday 10 th 9am-11am	Saturday 17 th 9am-11am		Friday 23 rd 9am-11am Global Youth Day!
May	Saturday 29 th 9am-11am	Saturday 22 nd 9am-11am International Biological Diversity Day!			Saturday 8 th 9am-11am		Sunday 16 th 9am-11am	
June			Saturday 19 th 1:30-3:30pm	Saturday 5 th 9am-11am		Saturday 19 th 9am-11am		

Please contact the BeachCare Coordinator Naomi Edwards on 5552 8823 or n.edwards@griffith.edu.au for further details.



Clean Up Australia Day

Sunday March 7, 2010



Gecko is coordinating Clean Up Australia Day in the Gold Coast region again in 2010 and there are two easy ways for you and your group to get involved;

To organise a Clean Up site, start by selecting your site. It could be a park, waterway, bushland - anywhere on the Gold Coast. For assistance or 'hot spots', contact the Clean Up team at Gecko.

Next, register your site at the Clean Up website or through Gecko. Closer to the day, you will receive your kit containing everything you need to run your site and manage the site volunteers.

The Gecko Clean Up team can also assist you in promoting your Clean Up site to attract volunteers!

To volunteer at an existing site, register at the Clean Up website or contact Gecko.

The site supervisors will supply volunteers with instructions, bags, gloves and a sharps container.

Volunteers are reminded to wear sturdy shoes, gloves, sunscreen and a hat on the day.

For more information, visit [the Clean Up website](http://the.Clean.Up.website), email Gecko's Clean Up Team at cleanup@gecko.rog.au or call Gecko on 5534 1412.



2010 International Year of Biodiversity

Biodiversity is life
Biodiversity is our life



The value of biodiversity



Why we are losing biodiversity



Taking action for biodiversity

The United Nations declared 2010 to be the International Year of Biodiversity. It is a celebration of life on earth and of the value of biodiversity for our lives. The world is invited to take action in 2010 to safeguard the variety of life on earth: biodiversity

Be inspired and get involved!

Communities and individual people are accomplishing great things.

It is the actions of individuals that will ultimately make a difference for safeguarding biodiversity.

Learn

- About biodiversity in your city, region and country
- How your consumption patterns and everyday actions may impact on biodiversity, sometimes in distant ecosystems

Speak

- Make your views known with government and the private sector
- Share your knowledge with people around you

Act

- Make responsible consumption choices
- Support activities and organisations that conserve biodiversity
- Join a local environmental NGO or organise your own activities that will help biodiversity
- Be creative and find a solution to biodiversity loss

Visit www.cbd.int/2010/welcome/ to find out more about the International Year of Biodiversity

1

Humans are part of nature's rich diversity and have the power to protect or destroy it.



2

Biodiversity, the variety of life on Earth, is essential to sustaining the living networks and systems that provide us all with health, wealth, food, fuel and the vital services our lives depend on.



Human activity is causing the diversity of life on Earth to be lost at a greatly accelerated rate. These losses are irreversible, impoverish us all and damage the life support systems we rely on everyday. But we can prevent them.

3



2010 is the International Year of Biodiversity. Let's reflect on our achievements to safeguard biodiversity and focus on the urgency of our challenge for the future. Now is the time to act.

4



Seagrass surveys

Seagrass-Watch surveys are undertaken three times a year (March/April, July/August and November/December).

The **March / April 2010** monitoring period is upon us and there are plenty of good tide times to choose from – see Good Tides opposite (Gold Coast Seaway).

Those who have been trained and set up at sites should select a suitable day and contact Daniela your SGW Co-ordinator to book out equipment. **Please give plenty of notice.**

Marine Strandings

If you come across dead or injured marine wildlife such as turtles and dugongs, please call the

**Marine Strandings Hotline on
1300 130 372**

Save the number in your mobile phone

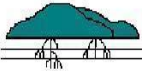
Thanks

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

Compiled by: Daniela Wilken-Jones & Nick Hoffmann
Seagrass-Watch Coordinators

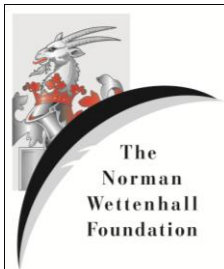
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Disclaimer: The views expressed in this newsletter are those of the writers and not necessarily those of the Queensland Government.



Wildlife Preservation Society of Queensland

Bayside Branch (Qld) Inc



**Queensland
Government**

Good Tides...

Month	Day	24hr Time / Height	
March	Mon 1st	1456 / -0.05	
	Tue 2nd	1534 / -0.04	
	Wed 3rd	1613 / 0.02	
	Thu 4th	1649 / 0.11	
	Wed 10th	1131 / 0.43	
	Thu 11th	1214 / 0.36	
	Fri 12th	1248 / 0.29	
	Sat 13th	1318 / 0.23	
	Sun 14th	1346 / 0.19	
	Mon 15th	1413 / 0.15	
	Tue 16th	1440 / 0.13	
	Wed 17th	1507 / 0.13	
	Thu 18th	1534 / 0.15	
	Fri 19th	1603 / 0.18	
	Sat 20th	1635 / 0.24	
	Sun 21st	1713 / 0.30	
	Wed 24th	0932 / 0.44	
	Thu 25th	1042 / 0.34	
	Fri 26th	1135 / 0.23	
	Sat 27th	1221 / 0.12	
	Sun 28th	1302 / 0.04	
	Mon 29th	1342 / 0.00	
	Tue 30th	1429 / -0.01	
	Wed 31st	1456 / 0.02	
	April	Thu 1st	1531 / 0.09
		Fri 2nd	1606 / 0.18
		Sat 3rd	1640 / 0.28
		Sun 4th	1718 / 0.38
		Thu 8th	1041 / 0.43
		Fri 9th	1123 / 0.36
		Sat 10th	1159 / 0.30
Sun 11th		1230 / 0.24	
Mon 12th		1300 / 0.19	
Tue 13th		1328 / 0.15	
Wed 14th		1357 / 0.14	
Thu 15th		1426 / 0.14	
Fri 16th		1458 / 0.16	
Sat 17th		1531 / 0.20	
Sun 18th		1610 / 0.25	
Mon 19th		1656 / 0.32	
Wed 21st		0758 / 0.39	
Thu 22nd		0908 / 0.35	
Fri 23rd		1008 / 0.27	
Sat 24th		1100 / 0.19	
Sun 25th		1145 / 0.12	
Mon 26th		1226 / 0.07	
Tue 27th		1304 / 0.05	
Wed 28th		1342 / 0.06	
Thu 29th		1418 / 0.10	
Fri 30th		1454 / 0.16	

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.