

Queensland *news* Seagrass-Watch

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Welcome to the New Year and the first Newsletter for 2002. This is the fourth year since Seagrass-Watch officially began in Queensland. We are hoping this year most volunteers will be able to monitor sites independent of DPI staff. This is already underway with 80% of Seagrass-Watch sites being monitored independently by community members in November. Stuart Campbell, Len McKenzie and other Marine Plant Ecology Group members are available for any information or requests volunteers may have. Newsletters will continue and contributions to articles from volunteers are most welcome.

Local eyes: Global wise

The International Seagrass-Watch Volunteers Forum was held at the University of Southern Queensland Wide Bay Campus, on the 12th - 15th October 2001. The forum was a great success and enjoyed by all 110 community participants and scientists who participated. It was a great opportunity for volunteers to meet each other and talk with scientists working on seagrass from across Australia and overseas.



Seagrass-Watch forums are an important part of the program for disseminating information and feedback between volunteers and scientists. The forum also gave volunteers an opportunity to voice their opinions about Seagrass-Watch and contribute to the future directions of the program. Many important issues were brought up by the focus groups and a report will be available soon. Issues included: feedback and information on how the data is being used for coastal management; frequency of refresher workshops; volunteer recognition and motivation; indigenous participation; development of a Seagrass-Watch website.

The organising committee would like to thank everyone for their support and for their contribution to the future of community based monitoring of marine habitats.



SeagrassNet & Seagrass-Watch Western Pacific



In January 2002, Rob Coles, Stuart Campbell and Len McKenzie (MPEG) participated in the Global Seagrass Monitoring Workshop held in Puerto Galera, Philippines. The workshop was to review the SeagrassNet methods currently being used to conduct scientific seagrass monitoring across the Western Pacific and to initiate a Seagrass-Watch Western Pacific node. The workshop was a success and the mayor of Puerto Galera in the Province of Oriental Mindoro proclaimed by executive order the establishment of the "Bantay Isay [Seagrass-Watch] Task Force". This is the first step in officially initiating a Seagrass-Watch Western Pacific node. Soon community members from Federated States of Micronesia, Palau, Indonesia, Papua New Guinea and Fiji will be conducting regular Seagrass-Watch monitoring.

For more information on SeagrassNet visit
www.seagrassnet.org

Visit the Seagrass-Watch website at
www.seagrasswatch.com



Did you know that Hervey Bay has the highest dugong population in Australia south of Cooktown

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Hervey Bay Happenings!

Long-term monitoring in Hervey Bay and the Great Sandy Strait

Anne O'Dea reports

The Great Sandy region Seagrass-Watch team completed the final surveys for 2001, with most of it done in ankle to knee deep water due to such high low tides. But that's all part of the fun and at least the water is warm! When asked why the tides are usually neap at this time of year Stuart explained "It's all to do with the moon and stuff." (That's why Stuart's a doctor - so he can use technical terms like that). If anyone has any equally reader friendly, but a bit more informative explanation that would save me digging up an old science text book I'd be keen to know.

Seagrass Recovery

Horst Pfaller has recorded a significant recovery of seagrass at Booral. In November 2001 the average seagrass cover remained steady at 4% at UG3 but increased from 8 to 14% at UG4 compared with previous monitoring in August 2001. This represents a dramatic increase in seagrass cover at both sites since May 2001 when average seagrass cover ranged from 0.2-1.0%. The dominant species is *Zostera capricorni* although large patches of *Halophila ovalis* were found. The abundance of seagrass was similar to that recorded 3 years ago prior to the February 1999 floods.



Seagrass cover at Booral (UG4) in August 2001 (left) and November 2001 (right).

An Award for Hervey Bay

by Jerry Comans

The Hervey Bay City Council awarded the Hervey Bay Dugong and Seagrass Monitoring Program in Hervey Bay an Australia Day Award for the "Community Event of the Year", for their involvement in the International Seagrass-Watch Volunteers Forum.

In February the University of Queensland in conjunction with QPWS and the Hervey Bay Dugong and Seagrass Monitoring Program will be starting a project to look at the Ecological health of Hervey Bay, Great Sandy Strait and the Mary and Burrum Rivers. This will include substrate sampling, herbicide sampling, measuring a range of environmental parameters such as light, sediment nutrients, sediment grain size, to help differentiate the factors that may affect seagrass photosynthesis and growth, from the role of herbicides, pigment

concentration, soluble sugars and carbohydrates, plant morphology, flowering and seed set.

It has been noted that in the Great Sandy Region a marked increase in the amount of seagrass [wrack] being washed up at high tide in mid November. At the Urangan marina in Hervey Bay there were some piles that were about 15 to 30 centimetres deep! Not quite the trailer loads that locals in the Strait talk about collecting for their gardens in the old days, but something that has the old timers talking. Some of the grass washed in at Boonooroo measured up to 26cm long.

Urangan surveys

Queensland Transport, Maritime Division, are proposing to extend and redevelop the Urangan Marina in Hervey Bay. The development will include extensive reclamation and dredging works near existing seagrass meadows. Monitoring of meadows is likely to involve local communities who are to be trained in the application of Seagrass-Watch techniques. Queensland Transport is also funding mapping of seagrass meadows in the Urangan region as part of their management of the Urangan Marina extension.

The Marine Plant Ecology Group from DPI will be mapping seagrass meadows in the vicinity and providing training for additional monitoring of Urangan meadows by the local community.

Booral Wetlands surveys

Surveys of seagrass meadows in the Booral Wetland regions are being funded by Queensland Parks and Wildlife Service during late February. The surveys will map the extent of recovery that has been found during Seagrass-Watch surveys in 2001. Mapping the geographic extent of meadows will allow sites to be selected for an upcoming examination by QPWS of herbicide and nutrient concentrations in seagrass meadow sediments.

Next Surveys in Hervey Bay & Great Sandy Strait

The next Seagrass-Watch monitoring period will be late February 2002. Stuart, Len and Juanita will be in the region from 25 February to 3 March conducting aerial mapping of the Great Sandy Strait and revisiting deepwater sites to examine seagrass recovery since the 1999 flood.

Best tides for Seagrass-Watch

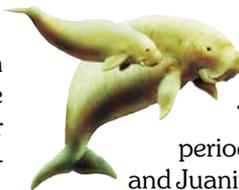
26 February to 2 March 2002

Hervey Bay (Urangan)

Lowest tide (0.45m) on Thursday 28 Feb at 4:05pm

Sandy Strait (Elbow Point)

Lowest tide (0.3m) on Wednesday 27 Feb at 3:00pm



Whitsunday Wanderings!



Monitoring

Jacque Sheils reports

Since the seagrass forum, the Whitsunday groups have been busy. First there was a display at the HUGE Centenary of Federation beach party at Whitehaven Beach, which saw around 1800 people gathered at this local beauty spot. The display hopefully made a few more people aware of seagrass and it's importance, with the Seagrass-Watch badge making a big hit with the local kids.



Robin Salmon and John Williams collecting seeds, Pioneer Bay.

We have also developed a Seagrass-Watch slideshow that we can use to raise awareness about the program in our local area. It had a trial run at the December meeting of the Whitsunday Volunteers, so now the Volunteers that aren't involved in Seagrass-Watch know more about what we are doing.

OUCH monitored the

subtidal sites at Cid Harbour and at Whitehaven Beach in December 2001. Seagrass cover at both localities was high indicating healthy spring growth. We may also have been successful in obtaining an offer for the use of a boat so it looks like we're on for 2002 as long as we can find some more able snorkellers for Cid Harbour.

Intertidal monitoring continued in the Whitsundays Region. The Hydeaway team were full of enthusiasm. Both sites were finished with speed and accuracy before the tide turned to cover the sites. Jean and Joyce also worked swiftly with precision at Dingo Beach. The Whitsundays volunteers monitored their 4 sites at Pioneer Bay. The seagrass at Pioneer Bay has never been so lush, with up to 60% cover in some quadrats. Most quadrats ranged from 20 to 35% cover. Volunteers at Pioneer Bay noticed an interesting phenomenon (similar to reports from the Hervey Bay region) when masses of seagrass blades were washed in with the incoming tide. This seagrass deposited on the shoreline is referred to as "wrack".



Laguna's living fossil!

By Bryony Barnett

Extension Manager, CRC Reef

We knew from the mass of small rounded pits in the silty mud that there was something lurking under the surface amongst the seagrass at Laguna Quays (south of the Whitsundays), during a recent monitoring trip [November 2001]. We didn't know just how interesting the residents were until the first sediment core produced evidence a 2 cm long oval shell, like a bivalve with a long fleshy stalk. What we had found was a lampshell *Lingula anatina* which looks like a mollusc, but belongs to a completely different animal group, the brachiopods.



Lingula anatina on a seed corer

The pair of oval shells are thin and non-calcareous (like finger-nails) and the long flexible stalk - the pedicle - emerges from the base of the shells. The animal lives buried vertically in soft sediments, with only the top of the shell protruding. The muscular stalk pulls the animal down into the sediment when disturbed. We found them at about 6cm below the surface.

It's the internal feeding and respiratory organ the lophophore that gives the brachiopods their name ('brachio' = lung, 'pod' = foot). The lophophore is a pair of coiled lobes fringed with cilia. The beating of the cilia creates currents, which bring a continuous supply of food particles to the filter-feeder's mouth below, and take the waste out of the burrows. The currents create the pits in the sediment surface noted by the Laguna Quays' Seagrass-Watchers.

Lingula is a modern descendent of a large group of animals, which existed 600 million years ago, when there were several thousand species, according to fossil records. Today there are about 300 brachiopod species, found mostly in the shallow Indo-Pacific seas, including the North Queensland coastline. Their typical habitat is the intertidal silty sediments in sheltered shallow bays just where you'd expect to find seagrass. Keep your eyes peeled for this elusive living fossil!

Next surveys in the Whitsundays

The next monitoring event in the Whitsundays will be from 25th to 31st of March 2002.

Good tides for Seagrass-Watch

Lowest Tide (Shute Harbour)

Thursday 28th March 4:36pm (0.27m)

Friday 29th March 5:15pm (0.27m)



Queensland Seagrass-Watch *news* continued ..

Townsville Tales

Dez Wells reports

Currently four intertidal sites have been established, two at Shelley Beach and two at Sandfly Creek. Talks with residents of Magnetic Island and Bushland Beach will take place early in 2002 to establish new intertidal sites. A preliminary subtidal survey of Halifax Bay will take place as soon as the stinger season is over with the hope of establishing two subtidal sites in the Bay.

Shelley Beach (SB2) has again shown an increase in the average seagrass coverage. The percentage coverage was supported by an increase in canopy height of the dominant seagrass species, *Halodule uninervis*. Dugong feeding trails were present in numbers and the width of the trails indicated both adults and calves at the site.

Sandfly Creek (SC2) was established in mid December due to the high low tides. Access was obtained by crossing Sandfly Creek in a very small boat. As shown below we have the Bathtub with the Butcher, the Baker and the Candlestick maker.



David Reid, Jane Mellors and Ann Ferguson in the bathtub

Sandfly Creek is different to Shelley Beach in that the substrate is mud and the seagrass species found at the site formed distinctive mats. The species were *Zostera capricornii* (dominant), *Halophila ovalis*, *Halodule uninervis* and *Halodule pinifolia*.

Mangrove-Watch in Mackay

By Meredith Campey

The National Heritage Trust and DPI's Queensland Fisheries Service have funded an investigation into the dieback of mangrove stands in the Mackay Region. The project aims to identify the cause/s and set an agenda for preventative action and mitigation of the effects of the dieback. As part of the investigation, a community-based monitoring program, called 'Mangrove-Watch', has been set up to monitor the health and condition of mangrove communities and their associated fauna. Volunteers in Mackay carried out the first mangrove monitoring in

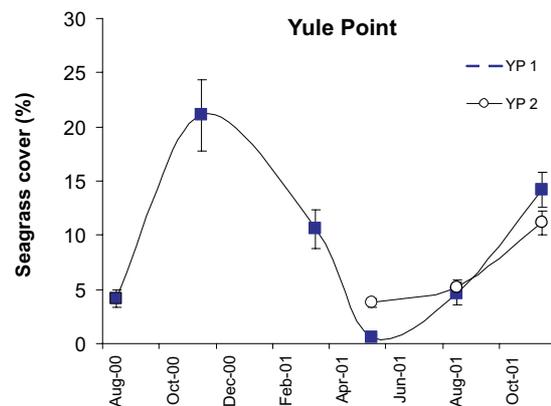


Clae Cummins and Meredith Campey monitor the health of Mackay mangroves

November 2001. Undaunted by the heat, humidity, deep mud and sandflies the volunteers collected a considerable amount of very useful information. For further information about Mangrove-Watch contact Judith Wake at Queensland Fisheries Service, DPI, Mackay on (07) 4967 0607 or [Seagrass-Watch](#).

Seagrass-Watch in the far north

Lecturers Tom Collis and Sue Taylor from FNQ TAFE recently ran a tutorial with MPEG Staff (Stuart and Juanita) on the statistics behind the science in Seagrass-Watch. The course was part of the "Caring for Country" program. The students were calculating mean values and plotting graphs in no time and discussing seasonal trends at Yule Point after looking at the data.



Do you want to get Involved?

Contact your local Seagrass-Watch representatives:

Hervey Bay:

Jerry Comans (Hervey Bay Dugong and Seagrass Monitoring Program) Ph. (07) 4124 2393

Great Sandy Strait:

Steve Winderlich (QPWS Maryborough) Ph. (07) 4121 1933

Whitsundays:

Margaret Parr (Whitsunday Volunteers Association) Airlie Beach Ph. (07) 4946 4996

Tony Fontes (O.U.C.H) Airlie Beach Ph. (07) 4946 7435

Townsville:

Dez Wells (Townsville Seagrass & Mangrove Volunteers) Ph. (07) 4789 0239

Moreton Bay:

Nicola Udy (QPWS Cleveland) Ph. (07) 3821 9024



Any comments or suggestions about the Seagrass-Watch program or contributions to the newsletters would be greatly appreciated.

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