# Queensland news Seagrass-Watch

ISSUE 10, JUNE 2001

**Welcome** to the second edition of the *Seagrass-Watch* Newsletter for 2001, the International Year of Volunteers.

## Seagrass-Watch in Moreton Bay

Seagrass-Watch is on the move with community groups in Moreton Bay. Approximately 30 people attended a seminar & information session at Manly Boat Club on Tuesday 1 May, and a field exercise at Wynnum the following morning. The event was organised by Queensland Parks and Wildlife rangers. Six sites have since been established at Wynnum and Victoria Point where *Zostera capricorni* meadows are in fair to good condition. Issues of concern at these sites include damage to seagrass meadows from bait worming activities (allowed outside marine parks boundaries), urban development and runoff.

*Community volunteers at Wynnum examine seagrass meadows impacted by bait worming.*

## Seagrass-Watch visits Maryborough special school.

Stuart and Len were invited to the Maryborough Special School on May 10, to educate the students on seagrasses and *Seagrass-Watch*. The event was a great success thanks to Anne O'Dea and Brad. The students with the help of local volunteers and teachers have adopted a site at Poona.

## Cairns students construct interactive Seagrass Web-Site!

Fun interactive Seagrass WebPages and Webgames will be the product of an exciting school industry partnership. Bentley Park College (based in Cairns), QDPIs Marine Plant Ecology Group (MPEG) and the Cooperative Research Centre (CRC) Reef have got together to build quality educational WebPages for all kids around the globe to access.

MPEG and the CRC Reef are currently teaching the students about seagrass ecosystems, scientific techniques and career information. The students will interpret this information and construct WebPages to be lodged on the CRC Reef WebSite in September this year.

You can visit the CRC Reef WebSite at www.reef.crc.org.au and find out more about seagrasses, and visit the students WebPages in September.

## Local eyes: Global wise

Planning for the 1st International Seagrass-Watch Volunteers Forum is continuing. The organising committee has received close to 120 expressions of interest. Although the size of the forum is limited to 110 participants, registration forms can still be sent in, however these people will be put on wait/standby if a place becomes open. You can complete the registration form on the forum website or email your expression of interest direct to isvf@dpi.qld.gov.au.

All participants will be sent a letter of confirmation in early July. It was anticipated to send these earlier, however due to registration/website difficulties, the response date has been delayed.

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*Seagrass-Watch* scientists are currently participating in SeagrassNet a global monitoring program working with scientists and communities in the Asia Pacific region.

*You can visit the forum Website at Seagrassforum.bayconnect.com.au*

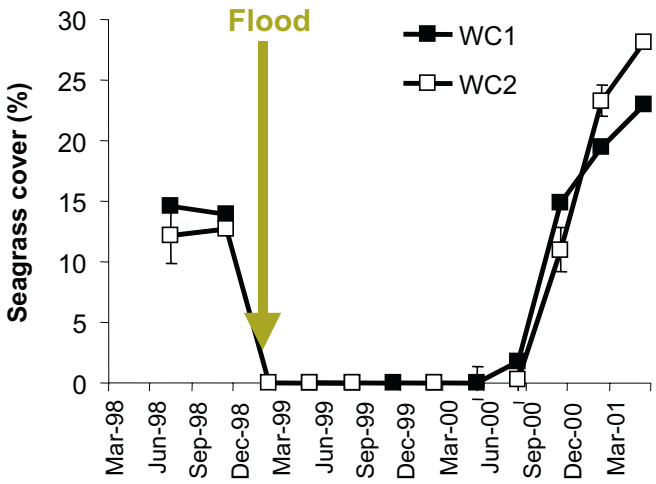
# Hervey Bay Happenings!

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

Thirty three sites were surveyed across the region in May 2001. Monitoring continued along the Hervey Bay intertidal flats at Burrum Heads, Toogoom and Dundowran. Seedlings of *Halodule uninervis* were found at Burrum Heads and Toogoom but seagrass cover remains low to absent at many sites and mean seagrass cover has was only greater than 5% at BH1. Seedlings of *Zostera capricorni were again found at Urangan and Booral Wetlands sites confirming that May is the time when germination of this species occurs.* Seagrasses across the Great Sandy Strait at Poona, Boonooroo and Pelican Bay have increased 2-10 times over the past 18 months and appear to be recovering following the impact from the 1999 floods.

## Seagrass decline and recovery

Although the flood plume in February 1999 from the Mary River did not extend far south into the Great Sandy Strait, preliminary analysis of EPA water quality data shows that low light persisted for 4-6 months post-flood. This is sufficient to cause seagrass die-off and explain the low abundance of seagrass found when monitoring began in August 1999. It appears the water column nutrients may have increased dramatically following the floods, as light penetration and salinity decreased over the March-June 1999 period. These changes in water quality promote algal growth and reduce light available for seagrass growth. Some algae grow on the sediments (benthic micro-algae) and use nutrients attached to sediment deposited by the flood. These algae compete with seagrasses for space to grow. They appear as a "scum" on the surface and have been found in the Hervey Bay and Great Sandy Strait regions by community *Seagrass-Watchers*.

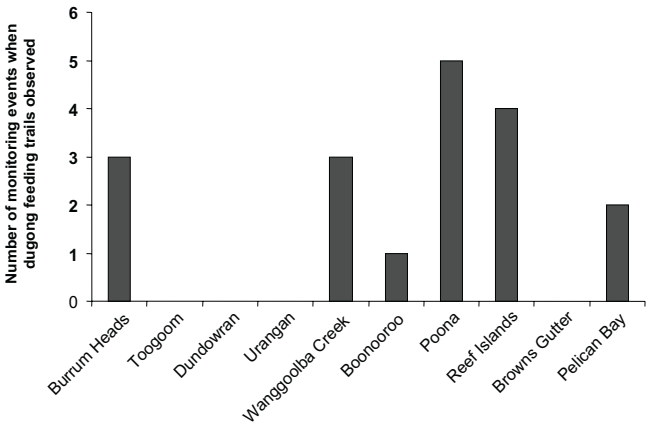



*Floods in Feb 1999 caused a dramatic loss of seagrass at Wanggoolba Creek. Two and half years seagrass meadows at both sites have recovered.*

Sites located in the south of the Great Sandy Strait at Browns Gutter have started to recover and seagrass is either absent or in isolated patches. Benthic microlagae were found at these sites forming "scums" on the sediment.

## Dugong feeding trails

Of the 8 Seagrass-Watch surveys conducted in the region, the presence of dugong trails has been highest at Great Sandy Strait sites than at Hervey Bay sites. This trend is consistent with Seagarss-Watch data that has shown higher seagrass abundance in this region.




Dugong feeding trails have mostly been found during August, November and February surveys and are least likely to be found in May.

## Next Trip To Hervey Bay

The Marine Plant Ecology Group will be joining the volunteers to monitor the permanent sites rom 16-22 August 2001.

## Good tides for Seagrass-Watch

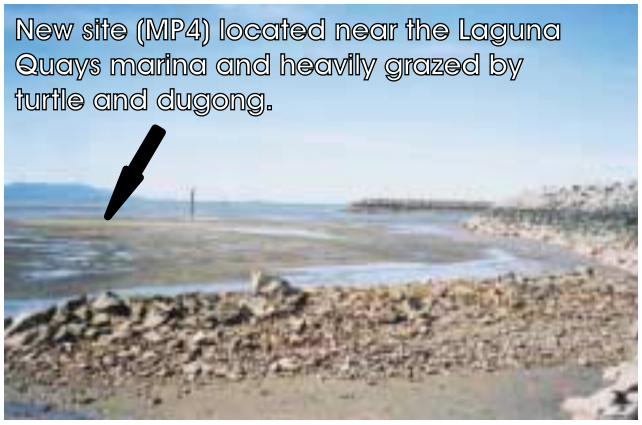
*August 16-22*

*Hervey Bey Bay (Burnett Heads)*
*Lowest tide (0.23) on Sunday 19 August at 2.54 pm.*
*Great Sandy Strait (Elbow Point)*
*Lowest tide (0.10) on Monday 20 August at 3.21 pm.*

# Whitsunday Wanderings!

## Whitsunday's monitoring

Monitoring occurred at 17 sites throughout the Whitsundays in June 2001. A new site a Laguna Quays was established in response to requests by Environment Australia for additional information on the seagrasses in this area. An airport and proposed marina developments have the potential to impact seagrasses and disturb local turtle and dugong populations. Turtle grazing was evident during this June survey but evidence of dugong feeding which has been recorded at this site in the past, was not found this time.




## Intertidal monitoring

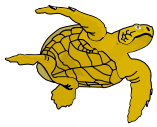
Monitoring at 14 intertidal sites continued. At Pioneer Bay sites 1 and 2 showed good mid-winter seasonal growth (25% cover) following periods of good light availability. Sites 3 and 4 showed no such seasonal increase and appear to be in serious decline (<10% cover). The sites are heavily covered by rafts of blue-green and brown filamentous algae which have smothered the seagrass in the area for the past 12 months. Blooms of the potentially toxic blue-green alga *Lyngbya majuscula* were again evident. At Dingo Beach Jean Wells noted a major decline in seagrass cover, most likely caused by the prevailing southeasterly winds which have dumped large amounts of sediment on the seagrass meadows. Maren and Sunnee found good seagrass cover at Hydeaway Bay sites. At Midge Point the Wenzler family found Midge Point sites to be healthy. Erosion of banks at Heather and Graeme's Midgeton sites was common due to recent prevailing southeasterly winds. Of interest was the spreading of seagrass meadows in areas protected by a ridge of sand caused by the recent "heavy" weather. Graeme and Heather also noted evidence of fish behaviour (Trevally holes) in the mud banks.

## Subtidal monitoring sites

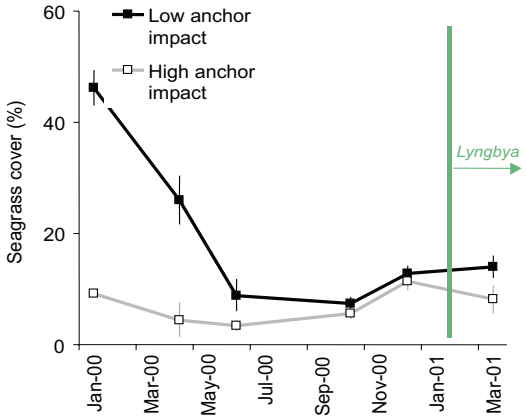
Sites at Cid Harbour were again monitored by Jacquie and Elmer from OUCH. Data is yet to be analysed but overall cover was low (<20%), typical of seasonal mid-winter growth previously found at this meadow. Turtle sightings during the survey were the lowest so far with about 10-15 sighted during the 4 hours on site.

*Snorkels at the ready, Alice Kay (QPWS) left, joins OUCH volunteers at Cid Harbour.*

Conservation Officers from Rockhampton QPWS joined *Seagrass-Watch* to learn techniques as part of a collaborative effort between QPWS and DPI to determine links between fluctuations in green turtle populations and food (seagrass) availability.



Seagrass cover at Whitehaven Beach was also low as would be expected during the winter period when bottom water temperatures decline causing a slowdown in growth. The extremely low abundance of seagrass may also be due to die-off caused by smothering and light reduction by the *Lyngbya* bloom recorded in March.




## Next trip to the Whitsundays

The Marine Plant Ecology Group will be joining the volunteers in the Whitsundays from 14-21st September, 2001.

## Good tides for Seagrass-Watch

*Lowest tide (Shute Harbour)*
*Saturday September 15 (2.47pm) 0.13.*

# Queensland Seagrass-Watch news continued ..

## Seagrass-Watch in the far north

Seagrass-Watch has firmly established itself in the far north of Queensland with additional sites setup at Shelley Beach in Townsville and north of Cairns at Yule Point.

DPI and JCU scientists presented a workshop in Townsville to a range of interested community members in early April. An information seminar provided community members with a background to seagrass ecology, the Seagrass-Watch program and techniques used to monitor seagrass meadows. Monitoring of seagrass at Shelley Beach found low cover (mean =5% cover) but had increased since monitoring began in November 2000. A concern was the presence of a filamentous algae subsequently identified as *Lyngbya majuscula,* a blue-green algae potentially toxic to humans. On the positive side, seedlings of *Halodule uninervis* were abundant indicating that germination occurs in the northern tropical regions at the same time as in Hervey Bay.

At Yule Point, 2 sites have now been established. A seasonal trend in seagrass cover has been found with increasing seagrass cover from August to November and decline from March through to May. Numerous dugong feeding trails were found during periods of increasing seagrass cover. Germination of *Halodule uninervis* seedlings occurred in May and August, consistent with seedling germination at other intertidal monitoring sites throughout the state.

## Seagrass-Watch going global

In a collaborative project with the University of New Hampshire, members of the Marine Plant Ecology Group are embarking on a 2 year project funded by the Packard Foundation to initiate global monitoring in 6-8 countries in the Tropical Indo-Pacific (Region IX).

The objectives of the Tropical Indo-Pacific SeagrassNet monitoring program are to develop in a pilot monitoring study and to provide training to build the capacity of scientists and local communities in the use of the seagrass monitoring protocols and SeagrassNet. If successful, the program will be expanded in the future into a broad global seagrass monitoring program of both research-based and community-based monitoring. The first trip departs late June, to visit Kosrae, Pohnpei, Guam, Palau, Philippines, Malaysia, New Guinea and Fiji.

## 10 Common mistakes to avoid when Seagrass-Watch monitoring

1. Forgetting to write observers names in full
2. Not filling in start and finish times
3. Not checking seagrass species composition add up to 100%
4. Measuring canopy height for *Halophila* instead of only "bladed" species.
5. Using < or > for estimating percentage cover instead of to the nearest decimal point
6. Not describing sediment composition in order of grain size dominance
7. Sending photocopies of datasheets to Cairns - please send originals
8. Not writing site number in full (2 letters and 1 number)
9. Photographing a quadrat with shadows or reflection
10. Not writing zero when algae or epiphytes are absent

## Seagrass Artwork

The exhibition of seagrass artwork by Ruth Berry has been changed (due to unforseen circumstances) and now will held at the Cairns Regional Art Gallery on 22 August 2001. The exhibition will display a range of watercolor paintings of tropical seagrasses.

## 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*

*Any comments or suggestions about the Seagrass-Watch program would be greatly appreciated.*

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Contact: Seagrass-Watch Coordinator
Northern Fisheries Centre
38-40 Tingira Street
PO Box 5396,
Cairns. Qld. 4870
Email: campbes@dpi.qld.gov.au
Phone(07) 4035 0100