

# Queensland *news* Seagrass-Watch

ISSUE 7,  
SEPTEMBER 2000

Welcome to the Spring 2000 edition of the *Seagrass-Watch* Newsletter. This Newsletter marks the completion of the first year of co-ordinated monitoring. With 50 sites now established throughout the Hervey Bay and Whitsunday's regions, a great deal has been learnt about the changes that occur in seagrass meadows. The first report of the overall findings will be finalised at the end of the year.



## Taking Seagrass-Watch to the world

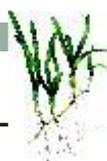


In late September, Len McKenzie (MPEG) will be giving a presentation to 136 of the world's top seagrass scientists on the *Seagrass-Watch* program at the 4<sup>th</sup> International Seagrass Biology Workshop in Corsica, France ([www.univ-corse.fr/eqel](http://www.univ-corse.fr/eqel)). Len is able to attend thanks to a CRC Reef Travel award. His talk will inform the rest of the world how community groups and volunteers working with fisheries scientists have established a reliable early warning system on the status of seagrass resources, and a broad measure of change. The talk will cover the program structure, training, how communities have contributed to seagrass resource mapping, and how community based seagrass resource monitoring is conducted. He will also present some preliminary results and video of groups monitoring sites. This will hopefully generate interest in the community-based monitoring forum to be held in Hervey Bay in October 2001 (see *Issue 5*).

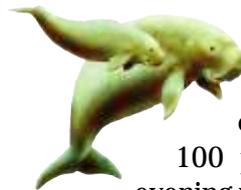
## Seagrass forum update

Environment Australia and QDPI have agreed to provide funding for the forum, and additional funds are being sought. Later this year a Web site will be established providing information on the forum and people will be able to register their expression of interest to attend. Only a limited number of participants will be able to attend due to the size of the venues. Formal applications to attend the forum will be sought early 2000. *Stay tuned.....*

Genetic studies have shown that some seagrasses are the longest living plants alive today.



## Dugongs and seagrass



On Friday 18th August a public forum on dugongs and seagrass was held in Hervey Bay. The evening was an overwhelming success with close to 100 participants. Key speakers on the evening were Prof Helene Marsh (James Cook Univeristy) and Len McKenzie (MPEG). After giving a brief background on dugong ecology and life history, Helene spoke on the distribution patterns, movements, and genetic research, trends in dugong numbers in relation to the Shark Control Program, and survey methods.

The news is good for Hervey Bay dugongs. The November 1999 dugong population estimate was  $1654 \pm 248$  individuals (vs  $807 \pm 151$  in 1994), although it is still not back to the 1988 level. Immigration must be responsible for a major part of this increase. In 1999, calves contributed 14.5% of the count (compared to 1.5% in 1994 and 22% in 1988). This reflects good seagrass resources in 1998. So far it appears the impact of 1999 floods was much less than 1992, however it will be interesting to see if calf levels decrease in 2000.

Len's presentation was on the status of seagrass resources in the Hervey Bay and Great Sandy Strait region and the impact of the February 1999 Mary River flood (see *Issue 6*). Complimentary copies of the final report are available to schools & libraries and personal copies can be purchased.



*Seagrass-Watch ventures into the north. See back page.....*

ISSN 1441-4236

*Enhalus* is the only seagrass whose flowers must touch the waters surface to pollinate.

# Hervey Bay Happenings!

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

Twenty six sites were surveyed across the region in July-August 2000. Abundance of seagrasses at Toogoom (sites 2 and 3) have declined significantly. A closer examination of the sites revealed that movement of sediments in the region is the most likely cause of seagrass loss (ie. burial by sedimentation). There is little information available on the time it takes for recovery of seagrasses to occur following burial, therefore, further monitoring by Seagrass-Watcher's should fill this gap in our knowledge.

In the Poona area, Garry Nielson observed a herd of dugong near the monitoring sites a few weeks before the August surveys. When Seagrass-Watchers surveyed site PN3 the abundance of dugong feeding trails was one of the highest ever observed in the region. The dugongs appear to be targeting the lush new leaf and rhizome growth.

## Seagrass recovery: First reports from Seagrass-Watch surveys



March 1998



February 2000



August 2000

Exciting news from Urangan and Wanggoolba Creek is that seedlings of *Zostera capricorni* were found during August 2000 surveys. This is the very first time seagrass has been found at these sites since the devastating floods in February 1999. Information such as this provides tangible evidence of how long this species takes to recover following catastrophic loss. It has given Seagrass-Watcher's such as Karen Kirk a unique opportunity to closely monitor the recovery to see whether it comes back to its previous abundance.

The quadrats photographed on the above-left were all taken at Urangan site UG2.

Seagrass-Watch co-ordinator Stuart Campbell (centre) and Trichelle and Matt Lowry identify seagrasses in the field.



## How healthy are the Hervey Bay region waterways?

On 17<sup>th</sup> August an initial meeting to discuss water quality and sediment monitoring in Hervey Bay and the Great Sandy Strait was held at the Hervey Bay Boat Club. It was attended by interested members of the community and government. Ben Longstaff and Tim Carruthers from Dept. of Botany (University of Qld) outlined their involvement in the Healthy Waterways project of the Brisbane City Council and how a similar monitoring program might work in Hervey Bay and the Great Sandy Strait.



Over the next few weeks, a list of questions will be compiled ; e.g. "Are the Great Sandy Strait waterways healthy? Why has seagrass coverage diminished at some sites? Why has broad leafed *Zostera* been replaced by narrow leafed *Zostera* at some localities?" These questions will then be collated and the Marine Botany Group will come up with a proposal outlining which questions they can answer within the sphere of their research. If you have any questions which you feel should be addressed in regards to the water quality/health of the region, forward them to Jerry Comans (HBDSMP) and Steve Winderlich (QPWS Maryborough). Minutes from the meeting are available from Pauline Fowlie (Hervey Bay City Council).

## Next Trip To Hervey Bay

The Marine Plant Ecology Group will be joining the local volunteers for the Seafood festival (October 15<sup>th</sup>) and to monitor the permanent sites in Hervey Bay and Great Sandy Straits from 9-15<sup>th</sup> November.

## Good tides for Seagrass-Watch

Hervey Bay (Burnett Heads)  
November 9-15

Lowest tide (0.51m) on Sunday Nov 12 at 2.47 pm.



# Whitsunday Wanderings!

## Whitsunday's groups awarded

On 26 June the Whitsunday volunteers and Order for Underwater Coral Heroes were each presented with plaques from the DPI and QPWS Seagrass-Watch team. The plaques were presented in recognition of the contribution volunteers made to the program and its success in receiving one of nine Prime Minister's Environment Awards.



Community Seagrass-Watchers accept the awards on behalf of their members. From left: Warren Lee Long (DPI), Stuart Campbell (DPI), Margaret Parr, Robin Salmon (Whitsunday volunteers), Jackie Shiels (OUCH) and Artie Jacobsen (QPWS).

The presentation was followed by an information session conducted by Warren and Stuart from QDPI. The evening informed new volunteers and local people of *Seagrass-Watch*, its aims and achievements. Discussion also centred around some of the findings from monitoring in the Whitsundays and field methods used by *Seagrass-Watch* volunteers. The evening concluded with question time and a seagrass identification session. Over the following week new volunteers made a significant contribution to the monitoring of newly established sites in the Whitsundays.

## Intertidal Sites

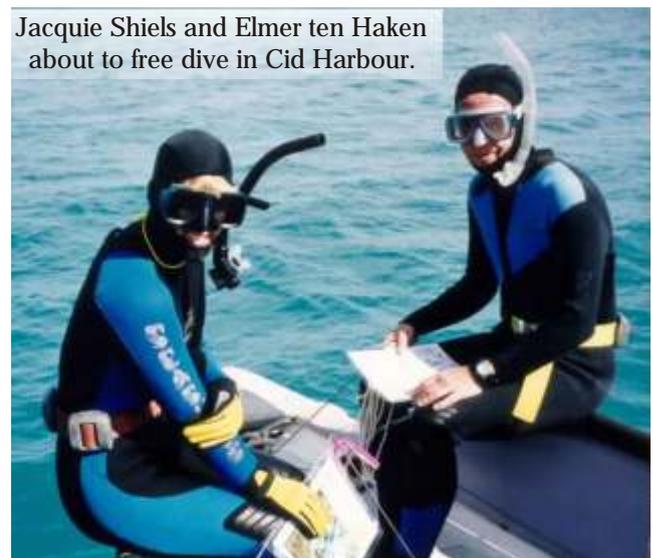
*Seagrass-Watch* surveys in June established a number of new sites along the Whitsunday coast. A total of 16 sites have now been established, from Hideaway Bay in the north to Midge Point in the south. Volunteers at Hideaway Bay include Maren Gail, Sunnee Goudy and Noel "Moffy" Moffat. All use their nearshore marine environment and are keen to protect it.



Around the corner at Dingo Beach, local residents Jean Wells and Joyce Pitello are the key people involved in *Seagrass-Watch*. In the southern area of the Whitsundays new volunteers Heather and Graeme Hyde are tackling Midge Point sites, Paul and Jennifer Wenzler and family are keen to survey sites in Repulse Bay. These sites are dominated by *Zostera capricorni* interspersed by large fields of *Halophila ovalis*. Dugongs feed extensively at Heather and Graeme's site whilst turtles are the dominant grazers at the Repulse Bay sites.

## Subtidal monitoring sites

Monitoring of the 15 subtidal spots at Cid Harbour and the 2 sites at Whitehaven Beach by OUCH divers, also continued. Data from the OUCH surveys indicates that anchors are damaging the seagrasses at Whitehaven Beach. An observed reduction in the percentage cover of seagrasses at Cid Harbour in June compared with the last survey in April is most likely a seasonal winter response.



Jacquie Shiels and Elmer ten Haken about to free dive in Cid Harbour.

## Next trip to the Whitsundays

The next surveys in the Whitsundays will be from the 21 to 26<sup>th</sup> September. Monitoring will occur at sites in Pioneer Bay, Repulse Bay and at the Dingo Beach/Hideaway Bay area.

Lowest tide (0.19m) on Tuesday  
September 26 at 3.28 pm.



# Queensland Seagrass-Watch NEWS continued ..

## Seed bank studies

Sampling for *Halodule uninervis* seeds is being incorporated into the *Seagrass-Watch* monitoring program. Seed count methods were trialed in May, and are now finalised after some refinement. Training on the seed sampling methods will be conducted during the next monitoring in each region.

## New Seagrass-Watch sites near Cairns and Townsville

*Seagrass-Watch's* first ventures into northern Queensland, establishing a state-wide coverage, have begun. This has been driven by community interest in the status of seagrasses in the north. Two new *Seagrass-Watch* sites have been established at Yule Point (30 km north of Cairns) and Shelley Beach



(10 km north of Townsville).

The Yule Point site is being monitored by a group of 12 students studying for a Certificate in Natural

and Cultural Resource Management - Caring for Country at the local Cairns TAFE. The teacher, Tom Collis, plans to continue the monitoring as part of their ongoing studies. Impacts at the site are mainly from land runoff associated with nearby agriculture. The site is important feeding grounds for dugongs and forms part of the Kuku Yalanji people's sea country.

In anticipation of a Townsville *Seagrass-Watch* project, a group of interested volunteers from RIVER accompanied Michelle Waycott (JCU) and Jane Mellors (QFS) (right) to scope possible



sites for the programme. After a quick identification session, the intrepid watchers tackled the intertidal meadows of Shelley Beach, braving cold and windy conditions.

Seagrass cover at both Yule Point and Townsville sites were low, but many seedlings and germinating seeds were found. These meadows were also extensively grazed by dugong and monitoring the growth and/or recovery of the seagrasses will complement existing community management strategies in the region to improve the condition of nearshore seagrass meadows.

## <sup>15</sup>N samples

During the June and July monitoring trips, samples of seagrass tissue were collected from sites in both regions. These samples will be analysed for nitrogen (N) stable isotopes to detect if the sites are impacted by sewage/septic effluents. Atmospheric N exists in two stable isotopic forms, <sup>14</sup>N and <sup>15</sup>N. The most abundant is <sup>14</sup>N. Sewage is generally enriched with <sup>15</sup>N. The relative proportion of <sup>15</sup>N to <sup>14</sup>N is referred to as the <sup>15</sup>N signature. Waters enriched with sewage therefore have elevated <sup>15</sup>N signatures. Marine plants incorporate and reflect the signature of this source. By examining the seagrass tissue samples, information on the source, extent and fate of sewage derived N can be provided.

## Seagrass-Watch logo

*Seagrass-Watch* will soon have it's own logo. The winners of the design competition will be announced at the Hervey Bay Seafood Festival on October 15<sup>th</sup> when the final design will be unveiled. The winning entries were judged by a panel and a graphic artist is producing the final design. The logo will identify the program and include seagrass, water and human elements.

## 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

### Whitsundays:

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

Tony Fontes (Order of Underwater Coral Heroes Volunteers) Airlie Beach Ph. (07) 4946 7435



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

NEXT ISSUE OUT DECEMBER 2000

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