

Seagrass-Watch



news

Issue 30 • September 2007

Seagrass-Watch has reached another milestone with the publication of its 30th newsletter issue. From a humble 2 page b/w 1st issue in October 1998, the newsletter is now 20 pages in full colour and includes contributions from around the globe.

In this issue you'll find articles on training workshops in Fiji, Whitsundays and the Kimberley region (Western Australia). Read about research and mapping projects in Queensland and India, and the expansion of monitoring to New Caledonia.

An important component of Seagrass-Watch is education, and you can read how students are participating in Singapore, Thailand and Australia. Maybe even learn about seahorses and other marine creatures which inhabit seagrass meadows.

This issue also includes articles on how Seagrass-Watch is working with island and coastal indigenous communities to actively involve resource owners, who have the practical and spiritual connection to seagrasses, in the management of their sea country.

There are also articles about who participates in Seagrass-Watch, the reliability of the data and communication. Hopefully, there is something of interest for all readers. Please enjoy!

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Caring for Sea Country

Torres Strait Islander and coastal (saltwater) Aboriginal people have been connected to sea country for many thousands of years and it remains an intimate part of their everyday spirituality, culture and existence today. To assist with management of their sea country, indigenous communities have

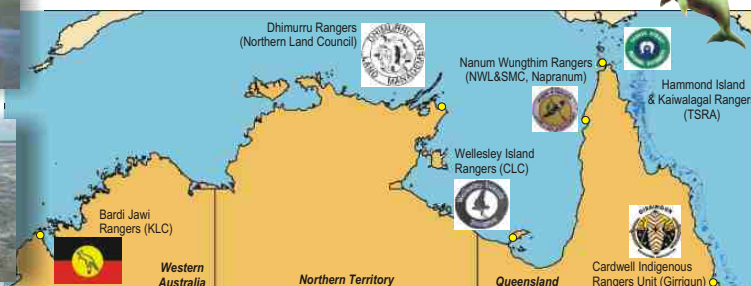
developed Sea Country plans. These plans allow for greater recognition and utilisation of the vast stores of experience indigenous people have as stewards and protectors of sea-country. Through these plans, indigenous communities have implemented ranger programs, research projects and other initiatives. Many of these plans recommend seagrass monitoring.



Seagrass-Watch has been working in partnership with indigenous communities across northern Australia to educate and build the capacity of young aboriginal and islander people. This involvement first began in the late 1990's with Tom Collis (Far North Qld TAFE) who was providing training in environmental management for future indigenous rangers. More recently, Seagrass-Watch is working collaboratively in partnership with a number of Sea Rangers across northern Australia to assess and monitor seagrass habitats (see pages 2,3,4 & 12). Indigenous Land and Sea Rangers work with Traditional Owners to run projects that look after, manage and take control of traditional country. Sea Ranger programs empower communities to keep country and culture healthy, generate positive social, economic, environmental, and cultural outcomes, and maintain strong connection to country for future generations.

Most of the indigenous communities Seagrass-Watch is assisting have formed a partnership called the North Australian Indigenous Land and Sea Management Alliance (NAISMA). Traditional Owners from the Kimberley, Top End of the Northern Territory, southern Gulf of Carpentaria, Cape York and the Torres Strait have joined forces to develop community-driven approaches to the sustainable management of marine turtles and dugongs in northern Australia. The Dugong and Marine Turtle project coordinated by NAISMA, takes a fresh approach by ensuring that Traditional Owners and Indigenous communities are driving research and management activities to look after the natural and cultural heritage of their ancestral country.

Along the Great Barrier Reef, many of the ideas behind sea country planning are being put to effect through Traditional Use of Marine Resource Agreements (TUMRAs). The Giringun Aboriginal Corporation (representing Traditional Owners from Lucinda to Innisfail) have developed a TUMRA and Seagrass-Watch HQ is working with the Cardwell Indigenous Rangers Unit, to develop an appropriate monitoring programme for turtle and dugong habitats for implementation in the near future. ♡



Seagrass-Watch acknowledges the Traditional Owners on whose sea country we monitor



DISCLAIMER: while all efforts have been made to verify facts, the Queensland Department of Primary Industries & Fisheries takes no responsibility for the accuracy of information supplied in Seagrass-Watch News. The views expressed in this newsletter are those of the authors and not necessarily those of the Queensland Government.

ISSN 1441-4236

For more information about the Reef and Rainforest Research Centre visit <http://www.rrrc.org.au>

Torres Strait



Regional Roundup

Jane Mellors reports

Early morning starts were the order of the day for Seagrass-Watch in the Torres Strait during August. We kicked off the monitoring at Back Beach. What a great turn out that was with Year 11 Marine Studies students trying their hand at Seagrass-Watch. Regular Watchers Stacey and Caitlin led the monitoring assisting the newcomers in the art of estimating percent cover and identifying the different seagrass species. Next day we had another early start catching the ferry over to Horn Island to monitor our site at Wongai Beach. Here we were joined by Frank Loban (Dugong and Turtle Project Liaison Officer, Land and Sea Unit), and Elizah Wasaga (Kaiwalagal Ranger). Frank got to try out his new Seagrass-Watch skills, while Jake and Kanteesha our two newest recruits tried their hand at seed monitoring for the first time. Kinam and Stacey completed the team and monitoring was finished in no time at all.



Frank and Stacey monitoring Wongai Beach, Horn Is.



Above: *Thalassia* fruit
Left: Dugong feeding trails
Below: *Thalassia* flower



Sunday saw a more leisurely start to the day (06:30) not quite the crack of dawn. We were joined in our monitoring by Julia, Suzanne Frank and Moses Wailu (Dugong and Turtle Project Officer, Mer Island). Julia and Moses (first timers) soon caught on and monitoring proceeded once the tide had finally dropped. Our final day of monitoring was over at Hammond Island. Frank and Moses accompanied us over to Hammond to assist the Hammond Island Rangers with the monitoring at Corner Beach. Francis and Alice were there to meet the team at the Hammond Island Wharf in their new flash four wheel drive. They were very keen to get going so the minute we got off the boat we were on our way to the site. We were amazed by the number of dugong feeding trails that wound their way through the *Halodule* patch inshore from our monitoring site. The other stand-out feature of this monitoring session was the number of *Thalassia* flowers we saw at both Back Beach and Corner Beach and the number of *Thalassia* fruit at Front Beach. ♡



Future Leaders

Andrew Denzin reports



Seagrass-Watch up here in the Torres Strait was a huge success again this term. Students, teachers and community volunteers banded together to complete surveys at our three locations. Early low tides mean pre-dawn starts for all involved, and what a turnout it was!

This term was particularly exciting to see some of our regular senior students taking on leadership roles within our team, great work Stacey, Jake and Caitlin. A huge thanks needs to go out to the Seagrass-Watch team, especially Jane Mellors for making this program such an important aspect of our school and community in the Torres Strait.



The Back Beach crew



Moses, Kinam, Jake and Frank at Front Beach



Jane and Jake on Transect 1, Horn Is

The sampling at our three locations is a fantastic experience for students and community alike, however the significance of Seagrass-Watch is really felt when Jane comes to educate and inform our students across all year levels the importance of this delicate resource. With all our year 11 Marine Studies students now completing their research assignments based on data collected this year it seems Seagrass-Watch will be an important feature within our school for weeks to come. Apologies here Jane if you are getting bombarded with

emails as our students have a lot of questions in regards to some of the Torres Strait variables.

We can't wait for Jane to return for the Term 4 monitoring as a trip to the outer islands maybe on the cards for some volunteers to spread the seed of Seagrass-Watch further in to the Torres Strait. ♡



Far North

Mornington Island mapping

Rob Coles, Helen Taylor and Mike Rasheed report



Rob Coles and Warren Lee Long sampling juvenile prawns in a seagrass meadow, Mornington Island 1983.



Above: The Helicopter used in the 2007 survey
Below: Dugong feeding trails in intertidal seagrass



Our seagrass research group at the Queensland Department of Primary Industries and Fisheries started in 1981 with a project in the Gulf of Carpentaria on the life cycle of juvenile penaeid prawns. It was this research on prawns that identified the vital link between seagrass meadows and fisheries productivity. From this we went on to survey Queensland's seagrass meadows and develop the projects and approaches you are all familiar with.

We were quite excited to be invited back this year to resurvey the meadows and see how much change would there be after more than 20 years. Our methods have changed a lot. In the 80's we used a vessel and divers and fixed our position by RADAR. This time we used underwater cameras and a helicopter and our maps are drawn with GPS accuracy.

The helicopter enabled us to find many meadows that were missed in the 80's survey and some meadows were in slightly different locations, but most meadows were relocated and mapped in much the same positions.

There have been species changes, as many of the larger plant types were less common than they were in the 80's. There was also evidence of

heavy dugong feeding in most intertidal areas.

We expect to back to the island later this year to conduct training and we will be writing a report to describe our findings. We were looked after on the Island by Eddie, Curly, Roberta and Ray and the surveys would not have been possible without the technical assistance and the boat skills of Bradley, Carl, Dirk, and Kevin and we look forward to working with the Mornington team in the future. 🌱

Monitoring in the Wet Tropics

July sampling in the far north kicked off with monitoring on Green Island on Thursday 26th. Len McKenzie and Rudi

Yoshida (SW HQ) monitored the two sites (GI1 and GI2) with assistance from Cath Collier (JCU) and work experience student Storme Sankey-O'Keefe. Both sites remained underwater due to strong winds, which made photographing the quadrats a bit difficult. Green Island also lived up to its reputation - no seeds were found, although Cath did come across a *Thalassia* fruit.

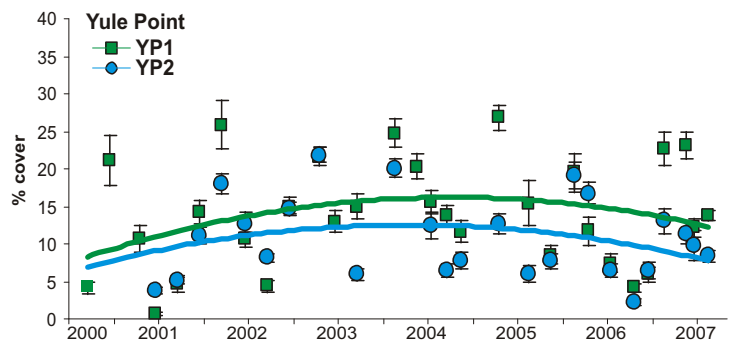
The following day, Len and Rudi monitored the two sites at Yule Point. Unlike Green Island the previous day, seeds were plentiful. Seagrass at these sites has also been relatively stable between years, with clear seasonal trends.



Above L-R: Cath, Len and Storme



Above: Yule Point site YP1.
Left: Adi, the beagle, checks Rudi's seed count!



Syringodium mixed with *Thalassia* and *Halophila* on Dunk Island reef flat.

An early start on the Saturday, for the 2.5 hour drive to Mission Beach for sampling on Dunk Island. The weather was miserable with heavy rain and wind. The weather did eventually clear toward the end of the day, and the low tides (lowest for the month) allowed for some exploration

of the reef flat between Dunk Island and Kumboola Island (a small islet on the fringing reef flat). *Syringodium isoetifolium* was found in patches, mixed with *Halophila ovalis* and *Thalassia hemprichii*.

For the last day of sampling, the team travelled back down to Mission Beach to sample, Lugga Bay. Although the weather was perfect, the tide took a while to go out, requiring some quick manoeuvring between the two sites to complete sampling in time. Overall, eight sites completed in four days. 🌱



Reef flat between Dunk Is and Kumboola Is, where the two Seagrass-Watch sites are located.

Seagrass-Watch Training workshop

Mornington Island

30-31 October 2007

Sponsored by Carpentaria Land Council Aboriginal Corporation & Seagrass-Watch HQ

To register, contact Seagrass-Watch HQ, email: hq@seagrasswatch.org or

Kelly Gardner, email: kgardner@clcac.com.au



Townsville

Townsville-Thuringowa Roundup

Posa Skelton & Naomi Smith report



An incredible three months have slipped by and the Townsville-Thuringowa Seagrass-Watch group continues to actively participate and promote Seagrass-Watch. This great community initiative deserves to be promoted at all levels and geographic scales, thus with this excuse, I headed to the Laura Dance Festival from 22-24 June. The festival celebrating indigenous cultures provided a good opportunity to highlight and spread the great efforts by our Seagrass-Watchers in the Torres Straits. Our colleagues at the Indigenous Unit of the Great Barrier Reef Marine Park Authority provided the space for our poster that was donated by Jane Mellors (Seagrass-Watch HQ); our sincere thanks to you.

Townsville Seagrass-Watch was represented by Jane Mellors at the Coastal Community Group Forum held on June 24th at the North Queensland Museum. The forum discussed community participation in funding proposals. This led to our support to funding proposals by our partners, the Townsville City Council and Conservation Volunteers Australia.

Our quarterly surveys for this time of the year were carried out at Shelley Beach on 14 July (SB1) and 12 August (SB2). Bushland Beach surveys were undertaken on 28 July, which was well attended by our Northern Beaches Rotary members. Don Kinsey and colleagues at the University of the Third Age conducted the survey of Cockle Bay on 12 July.

Naomi Smith (Seagrass-Watch HQ) show-cased her teaching skills by doing a series of Seagrass-Watch presentations at various local schools, including Hermit Park, Belgian Gardens and Magnetic Island State School. This led to Hermit Park State School joining the Seagrass-Watch fraternity and the establishment of our second seagrass monitoring site at Rowes Bay (RB2). Belgian Gardens have sampled their site (RB1) three times this term as

they have three Year 6 classes and everyone wanted to participate in the Seagrass-Watch experience. It was an enjoyable challenge to focus and re-focus the young minds from the distracting critters crawling outside of the quadrats. But the persistence of the minders Carmen Browne, Adam King, Posa Skelton, Rebecca Bowie and Naomi Smith and the teachers ensured the tasks were achieved.

One of the new initiatives touted in the last Seagrass-Watch Newsletter (Issue 29) was a call for ideas to find an identity for our group. We have had excellent responses from our Seagrass-Watch schools and we



Bushland Beach July 07



Naomi (SW HQ) with Belgian Gardens students

Belgian Gardens have sampled their site (RB1) three times this term as



Hermit Park students on site at Rowes Bay

are currently refining these ideas so that it has a local feel and appeal. Keep an eye out in the next issue of our Seagrass-Watch Newsletter for the winning entry. The prize for the winner is kindly provided by the International Ocean Institute's Women and Youth in the Sea Programme.

Seagrass-Watch is indeed a global programme, and we were happy to promote this and be part of the Townsville Cultural Fest,



Carmen Brown at the Cultural Festival stall

under the 'Save the World Day' campaign. Our motto: Local Eyes Global Eyes is a perfect contribution to such aspiration. I am extremely grateful to Carmen Browne, Sally Harman and Naomi Smith for assisting in the staffing of our stall.

Our membership base continues to increase, not only through our community awareness initiatives, but also through the word-of-mouth by our members. We thank everyone who took part in Seagrass-Watch surveys and promotions thus far, and we look forward to another great quarter of working together. ♡

Bushland Beach

Lux Foot reports



On Saturday 28th July, eleven of us ventured out to the seagrass meadow. The day was a beautiful winter day in the tropics with only a light breeze which made for a good day to monitor.

The blowouts (erosion gaps in the meadow) are getting larger, however the seagrass is returning in the older parts of the blowout. Seed counting was interesting with 484 whole and 82 half seeds counted.



Posa, Julie and Anto, monitor transect 2

We had young Blair Wilson with us to do an exercise for his Bronze Duke of Edinburgh award. Blair did enjoy the experience. ♡



Left: 484 seeds and counting...



Townsville Region

Shelly Beach

Sue Mulvany reports

Once again, the weather was perfect at SB1 for monitoring on 14th July. Thanks to our dedicated band, including Jade and Chris Taylor, and Rebecca Vallis who monitored for the first time. It's great to see people willing to give an afternoon to keep a track on our seagrass meadows, and enjoy the sunshine.



Sadly our site is having a rough time. One third of the transects are bare of seagrass, as was the case for the last sampling period,

and *Halodule uninervis* is practically the only species present, with a miniscule amount of *Halophila ovalis*. There were no dugong trails. We did find a fair few *Halodule uninervis* seeds however throughout the site. The biggest thrill for me was seeing the butterfly cod (*Pterois volitans*) [or lionfish] found by Adam, which was hiding inside the end of an old piece of pipe with just enough water to make a cosy pozzie at low tide. Thanks to all our helpers and see you in October (Saturday 6th). 🌱



Halophila ovalis, but there were patches of *Zostera capricorni* which kept the groups on their toes with the species identification, as *Zostera capricorni* looked very similar to *Halodule uninervis*. For the first time



at this site *Halophila spinulosa* was observed along a transect, normally this species is found in troughs just outside our monitoring area.

It was a great learning experience for the Green Corps group and it was nice for us to have more hands to help with the afternoon. Thank you to Carla, Iony and Adam for taking the students from Green Corps under your wings for the monitoring day. 🌱

Cockle Bay, Magnetic Island

Don Kinsey reports

The July monitoring by our U3A Earth and Sea class was carried out on Friday 13th. The weather leading up to this July monitoring were distinctly unusual: May was the hottest on record; June was the coldest and wettest (approx.



110mm on MI) on record. The period immediately preceding the monitoring had winds dominating from S/SW. This means that the normally sheltered leeward MI2 Cockle Bay site was subject to atypical wave action at high tides. One result of this was that the higher ground from the inner ends of

the transects to the mangroves had developed a considerably undulating profile. There was very limited seagrass cover on this high ground on this occasion, with some stunted *Halophila ovalis* and very limited patches of *Zostera capricorni*.



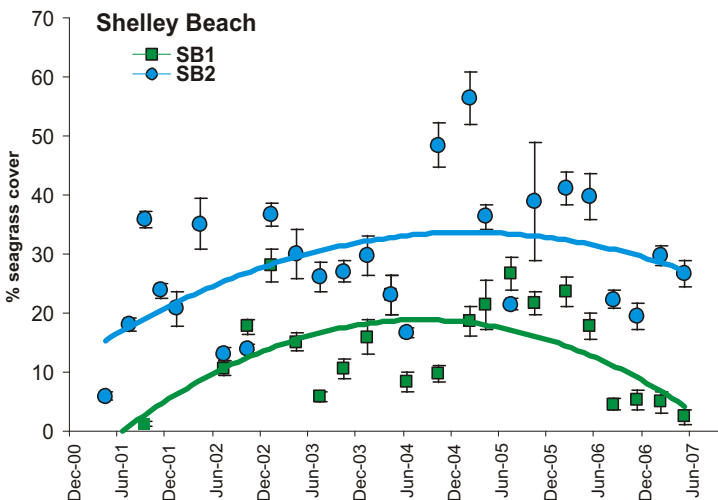
The transect's generally exhibited more evidence than usual of disturbance by large animals. This did not look like dugong activity so I would assume it was mostly rays and possibly some crabs. During our monitoring exercise, there was a substantial flock of

about 70 Sacred Ibis feeding over the adjacent area. Perhaps these cause some of the surface disturbance noted?

Cymodocea serrulata was dominant on the transects but shorter and with reduced cover relative to April. This pattern was, however, similar to July 2006 notwithstanding the considerable differences in the preceding weather. One notable difference from July 2006 was the complete absence of *Halophila ovalis* (present in reasonable amounts on transects 2 and 3 in 2006). *Halodule uninervis* was present in minor amounts along transects 1 and 3 but less evident on transect 2. We found no *Thalassia hemprichii*.

Algal cover was low in the majority of quadrats. As usual, Transect 3 with its sparser seagrass cover, exhibited more algal cover. Most of this algal cover was *Halimeda sp* with some occurrence of foliose reds. It should be noted, however, that the epi cover on the seagrasses which was high in all three transects, was almost entirely filamentous algae. Thus, overall algal cover along the transects was high. Diatomaceous mud epi cover was very low.

As usual, seed occurrence was very low - three half seeds being found in the total monitoring exercise. 🌱



Naomi Smith reports

Regular DPI&F Seagrass "Watchers", Carla, Iony and myself were joined by Adam King and a group of nine Green Corps participants to monitor the beautiful SB2 site on August 13th.



As the Green Corps group had not heard about Seagrass-Watch, Adam did a quick introduction into the methods and what it would be like out in the meadow. We then began our trek over to the site. The sediment was hard under foot with only a few little patches of mud. Once out at the site, we broke into groups with one of the experienced "Seagrass-Watchers" on each transect.

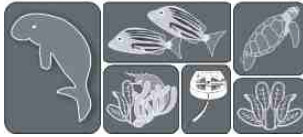
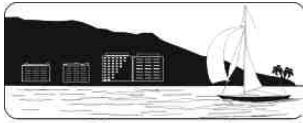
A Green Corps person from each transect was nominated to take the quadrat photographs. We then recruited helpers from each transect for the seed sampling.

The SB2 meadow was dominated by *Halodule uninervis* and



Whitsundays

Regional Roundup



Len running through monitoring protocols at Midge Point



Setting up at Hydeaway Bay



Dell (foreground), with Lani, John and Kim (background), PI1



Maren, Robina and Dell ID seagrass



Jane runs through Seagrass ID

Seagrass-Watch HQ visited the Whitsunday region to catch up with local Seagrass-Watch groups, conduct a workshop and to farewell Margaret Parr.

On the 11th July, HQ visited the Midge Point sites, MP2 and MP3, and with the help of QPWS rangers, and local volunteers, both sites were monitored. Len McKenzie also ran through a crash course on Seagrass-Watch monitoring protocols for those volunteers who had not done monitoring before. Also of note were a few stranded turtles waiting for the tide to come in.

On the 12th, monitoring moved to Hydeaway Bay, where QPWS was again on hand to provide assistance with local volunteers. Seagrass-Watch HQ also trialed seed monitoring at Hydeaway for the first time, the coarse sand/coral rubble sediment made coring very difficult, no seeds were found.

The following day, sites at Pioneer Bay were monitored. Len McKenzie, Rudi Yoshida and Dave Harper (QPWS) monitored PI1 and Margaret Parr and company monitoring PI2.

One of the main events for the visit was a training workshop for new participants and a refresher for those more experienced. The workshop was held at QPWS Whitsunday Information Centre Airlie Beach, and included lessons on seagrass identification, background on seagrass ecology and importance, and how to monitor seagrasses using the Seagrass-Watch protocols. It was also an opportunity for current "Seagrass-Watchers" to see the trends in their data.

That afternoon, the field

component of the workshop moved to Pioneer Bay, where sites PI3 and PI4 were monitored. The day was wrapped up with a special presentation to Margaret Parr (Seagrass-Watch's longest-serving volunteer and local coordinator), who was farewelled in style at a special ceremony at Cannonvale. Margaret's retirement from Seagrass-Watch has been brought about by a move to the cooler climes of Canberra with her husband Bruce. To commemorate her nine years of dedicated Seagrass-Watching, Member for Whitsundays and Primary Industries and Fisheries parliamentary secretary Jan Jarratt MP, presented Margaret with a special gift and certificate. Margaret first joined Seagrass-Watch to assist her daughter Amanda, who had volunteered to coordinate a Pioneer Bay group. After a few months, Amanda left the district, but Margaret had been well and truly bitten by the Seagrass-Watch bug!

Margaret believes there are four main reasons why Seagrass-Watch became an important part of her life. "Firstly, being involved in a worthwhile project where data collected is valued and used, number two is learning so much and hopefully contributing in managing our local environment," she said. "Then there is working with wonderful folks like the local mob, Jane Mellors and her various helpers always having a few laughs and usually a cuppa and a chat, and finally there is getting out on to different sites; with perhaps the exception of negotiating the mud in Pioneer Bay; they are all beautiful meadows in beautiful surroundings."

Jan Jarratt paid tribute to Margaret's dedication and her commitment to this programme, especially hearing how Margaret travels from Midgeton to Hydeaway Bay, often taking time away from her business and trudging through calf deep mud at some sites to ensure the data is collected on time. 🌱



Field component of the workshop



Jan Jarratt MP (left), and Len McKenzie (SW HQ) with Margaret Parr



Jan Jarratt, MP (left), and Len McKenzie (SW HQ) with Margaret Parr



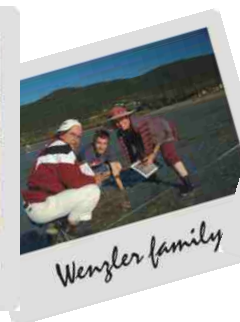
Margaret and Maren, HB2



Midge Point



Pioneer Bay July '07



Wenzler family



Pioneer monitors

Great Sandy Strait



Regional Roundup

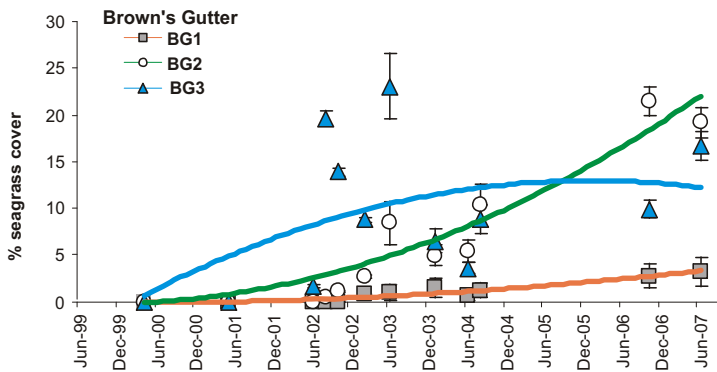
Gordon F Cottle reports



Fine, sunny and calm conditions on 11th June with a midday low-tide gave Robyn,

Paul, Sarah and Matthew the opportunity to monitor all three sites at Brown's Gutter. At BG1, transect 1 showed a trace of *Zostera*, but little sign of animal activity. The patch of *Zostera* at transect 2 over the first 20 metres has increased again, up to 40% cover with longer leaves. Transect 3 remains barren.

BG2 maintained its overall higher seagrass cover of *Zostera* between 20 and 30%. Again the leaf heights were twice that recorded in August 2006. Five quadrats on transect 2 had *Halodule uninervis* present.



BG3 continued a similar trend to BG2, with coverage considerably greater than in August 2006. *Zostera* is still the predominant species, however *Halodule uninervis* and *Halophila ovalis* are evident throughout the site, which is covered in dugong feeding trails. An interesting discovery, a purple/black "thing" with lots of hairy legs - identified as a feather star or crinoid.



Dugong feeding trails at Browns Gutter

On 14th July, Robyn, Hanne, Pat and Gordon visited Tinnanbar having to access the sites from the southern end of the beach, as the Caravan Park and beach access closed awaiting foreshore development. One wonders what effect this will have on the area??

TN3 transects I & 2 were very similar to March 2007, with *Halodule uninervis* predominant, but a noticeable absence of *Halophila ovalis*. Seagrass cover on transect 3 was down by about 50%, the missing species being *Halophila ovalis*.

It was difficult to assess TN2 with cover very patchy ranging from 2 to 25%; again the loser was *Halophila ovalis*. Fresh dugong feeding trails were clearly evident, with three in quadrats. This site is directly in front of the old caravan park' so there is currently no boat or foot traffic.

The following day, Robyn and family ventured to Kauri Creek in idyllic conditions, for the first time since December 2006, and sat for a long while watching a pod of Indo - pacific dolphins at play. Healthy *Zostera capricorni* cover to 30%, and canopy heights to 8cm over the whole area; a considerable increase overall.

Another boat trip on the 29th July took us to BN3 which we

usual all three seagrass species were present but the overall percentage cover was down on January, 2007.

The return trip by a different route to the Tuan channel saw us with time to stop off at BN2, always very sparse, with the odd patch of *Zostera capricorni* and some *Halophila ovalis*. This is a popular yabby pumping area.



Dolphins spotted on the way to Kauri Creek

On the 30th July Gordon & Pat met up with Dorothy Pashniack and Norma Sanderson from Cooloola Coastcare to drive to Inskip Point to monitor PB1. An intriguing find was a carpet anemone.

It was very noticeable that, apart from transect 1, the seagrass was very clean and cover well up from March 07. The *Zostera* in particular had a burnt appearance, possibly a result of exposure and high light. Where the cover was 10-12%, the rhizomes extended well away from the quadrat.

Robyn and Hanne visited Poona on the 11th August. PN1 seagrass covers on all transects were very similar to May 2007, averaging 5 - 7% with *Halodule uninervis* and *Halophila ovalis*. Extensive feeding trails were found throughout the area. The small patch of the macro-algae *Caulerpa* adjacent to transect 3, first seen in May, showed fresh clean growth.

PN2 has lost most of the regrowth of seagrass recorded in May. The site has an extensive cover of unidentified algae, probably the result of nutrient run off from nearby coastal developments.

Unfortunately our planned visit to Tin Can Bay and Tinnanbar on 27/28th August with a perfect low tide (0.20m) in the afternoon had to be cancelled. The region received 30 inches (760 mm) of rain in the preceding week, causing the Mary River to peak at midnight on Sunday and Tinana Creek on Monday, both of which affect the access roads. Incidentally, this is the highest rainfall recorded since the cyclonic floods in 1992 which led to the founding of Seagrass-Watch.♥



Sea Anemones

Sea anemones are solitary polyp cnidarians (order Actiniaria) closely, related to corals and jellyfish. They are named after the anemone, a terrestrial flower. Carpet anemones (*Stichodactyla* spp.) like the one pictured, are sometimes common in sandy areas within or adjacent to seagrass meadows. Carpet anemones are amongst the largest of the sea anemones. They are predatory, and have stinging cells in their tentacles to entangle and paralyse animals that stumble into them. Carpet

anemones usually stay in one place, but they can uproot themselves and move, possibly to avoid burial and find more suitable habitat.



Crinoids

Crinoids, also known as "sea lilies" or "feather-stars", are marine animals that make up the class Crinoidea of the echinoderms (phylum Echinodermata). They live both in shallow water and in depths as great as 6000m. Crinoids are characterized by a mouth on the top surface that is surrounded by feeding arms. They have a U-shaped gut, and their anus is located next to the mouth. Although the basic echinoderm pattern of five-fold symmetry can be recognized, most crinoids have many more than five arms. Crinoids usually have a stem used to attach themselves to a substrate, but many live attached only as

juveniles and become free-swimming as adults. There are only a few hundred known modern forms, but crinoids were much more numerous both in species and numbers in the past. Some thick limestone beds dating to the mid- to late-Paleozoic are entirely made up of disarticulated crinoid fragments.

Qld and NSW

Moreton Bay, SE Qld

Keira Price reports

The mid year monitoring round went well with the general health of seagrass at the sites monitored looking stable.

Although the data from this round has yet to be analysed, it appears that normal seasonal variations in seagrass cover were observed, with the usual winter drop off in growth and smaller, finer leaf blades. The week of gale force winds in late August left large amounts of *Zostera* washed up along the foreshore at many sites.



Zostera wrack on beach

A number of the temperature data loggers that we have deployed at various sites were retrieved during this monitoring round to be downloaded. It will be interesting to see if there is any correlation between temperatures recorded and seagrass growth. New data loggers were reinstalled at the sites and three other sites have had data loggers installed during this period.



Monitoring in Moreton Bay

In July we conducted an enjoyable trip out to Moreton Banks on the QPWS barge to run a training day for some new and interested volunteers and to do some advanced training with a group of our veteran Seagrass-Watch volunteers

who regularly monitor the site.

Another training day was also held in July at our Fisherman Islands site for more new volunteers. It's good to see that there's still plenty of interest in the community!

August saw the first monitoring round for the new Gold Coast Seagrass-Watch program. It all went very well with the first group of trained volunteers getting stuck in and having fun as well as doing a good job. There is so much interest in the Gold Coast program that we held another training day in conjunction with the monitoring so there will be a few more groups ready to get out there in November/December! ♡



Monitoring on the Gold Coast

Monitoring Status in NSW

Carla Sbrocchi reports

The NSW Community Seagrass Monitoring Program is up and running again! Although we experienced an unfortunate hiatus, we are again supporting and forming groups across NSW to monitor seagrass in local areas.

Fourteen groups along the NSW coast were previously trained in seagrass monitoring methods. These groups have been making big efforts to continue monitoring events amongst illnesses, maternity leaves, changing site conditions and other challenges.

We are encouraging existing groups to

recruit new members to assist with their monitoring events and find new sites that might be more suitable for consistent monitoring. We are working on forming partnerships with groups that currently conduct other types of monitoring efforts in order to achieve a concerted, ecosystem-based effort that will heighten conservation actions throughout local areas. ♡



The map below shows locations where groups are taking an active part in seagrass monitoring and education:



Bellingen - Urunga
 Port Macquarie - Hastings River
 Taree - Old Bar
 Great Lakes - Green Point
 Lake Macquarie - Coal Point
 Central Coast - The Entrance
 Pittwater - Careal Bay
 Manly
 Rockdale / Randwick / Botany Bay
 Lake Illawarra
 Shoalhaven - Gerroa
 Eurobadalla - Congo
 Narooma - Wagonga Inlet

Seagrass-Watch Training workshop

Moreton Bay

24-25 November 2007

Sponsored by SEQ Catchments, QPWS (EPA), QCC & Seagrass-Watch HQ

To register, contact Seagrass-Watch HQ,
 email: hq@seagrasswatch.org or

Keira Price, email: Keira.Price@epa.qld.gov.au

HAVE YOU REGISTERED WITH HQ??

To receive regular updates on the program and be a recognised member of the Seagrass-Watch community go to

www.seagrasswatch.org/register.html



New Caledonia



In early May, Len McKenzie (Seagrass-Watch HQ) took leave and visited New Caledonia to attend the GeoHab2007 conference and explore the potential for expanding Seagrass-Watch into the French territory.

New Caledonia's Barrier Reef, which surrounds Grande Terre and the Isle of Pines (Île des Pins), is the second-largest coral reef in the world, reaching a length of 1,500 kilometres. The Caledonian reef system has great species diversity, and is home to endangered dugongs (*Dugong dugong*), and is an important nesting site for the Green Sea Turtle (*Chelonia mydas*).

Eleven species of seagrass are present in New Caledonia. They are found in estuaries, on intertidal sandflats, and subtidally to depths of approximately 60m inside the barrier reef waters. Seagrasses are a significantly component in the marine ecosystems of New Caledonia and their contribution to the total primary carbon production is critical to regionally important dugong and turtle populations.

The great majority of seagrass and reefs here are reported to be in good health, with the exception of eastern reefs that are harmed by coastal runoff of sediments and nutrients. Nickel mining and brush fires are reported to intensify erosion during cyclone flood surges, and coastal development poses an additional threat. Extensive aquaculture in the region is also reported to add nutrients to the water, which results in a rapid growth of harmful algae.

A possible long-term monitoring site was examined on the intertidal reef-flat east of the Le Meridien

resort, Anse Vata (Noumea). The site was dominated by *Halodule uninervis* and *Cymodocea serrulata* (minor patches of *Thalassia hemprichii* and *Halophila ovalis*). Epiphyte cover was very high (>80%), and holothurians were abundant. The reef-flat was also a popular location for fishing and gleaning. It is hoped that local citizens who have expressed an interest in Seagrass-Watch will adopt the site in the near future and continue monitoring. ♡



Motupore Island, PNG

Jane Wia reports



The third of this year's four long term monitoring surveys was completed in mid-August with the discovery that there were two distinct growth forms of the species *Halodule uninervis*: (1) a narrow and (2) a wide, leaved form. This distinction in growth form has been noted in previous studies conducted within Bootless Bay, but up until now we haven't been able to confirm this for ourselves. We've only noted the narrow leaf form as this was more common in our survey area which is mostly within the intertidal zone.

The narrow form of the species which measured up to 1mm in width appears to be more common in the intertidal zone and can form monospecific strands in areas that would be prone to exposure during extended periods of low tide. Also, these areas are in close proximity to mangroves and are heavily laden with silt.

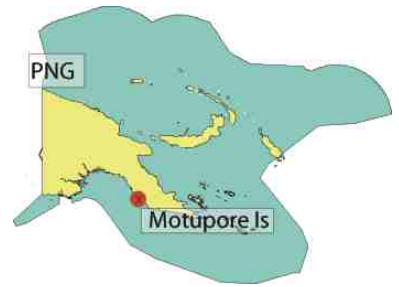
Any seagrasses found there are usually smothered.

The wide leaved form measured close to 3 mm in width and no monospecific strands could be found within our monitoring site, but its occurrence was found to be associated with the narrow leaf form as well as *Cymodocea rotundata*, *Thalassia hemprichii* and *Syringodium isoetifolium*. Previous studies have stated that both forms can be found within the littoral belt but only the wide leaved form can be found beyond the sublittoral down to about 10m.

This distinction in growth form for *Halodule uninervis* was only observed in site BT1 which is flatter than BT2 where a noticeable slope is present. This difference in topography means that the intertidal zone is more extended in BT1 and much more area is exposed during low tide periods.

We hope to be able to provide more data on the distribution and abundance of these two forms of *Halodule uninervis* within our survey sites in the future.

We have also received confirmation from a local community representative to go ahead with the establishment of an additional monitoring site within Bootless Bay. This should be established by November 2007. ♡



Eddison Silas at BT1



Jane Wia estimating % cover





Viti Levu to Ovalau



In June Len McKenzie and Rudi Yoshida (Seagrass-Watch HQ) volunteered their time and travelled to Fiji at their own expense, to conduct a Seagrass-Watch workshop (the 5th in a long line of workshops for 2007).

They also caught up with local Seagrass-Watch groups, monitored sites on the islands of Ovalau and Viti Levu, and established two new sites in the island nation.

The workshop on Saturday 16th June, at Corpus Christi Teachers College, Laucala Bay included lessons on seagrass identification, herbarium pressing, background on seagrass ecology and importance, and monitoring seagrasses using the Seagrass-Watch protocols. Workshop participants were from local schools, USP (University of the South Pacific), NGOs (non government organisations) and the local community. It was also an opportunity for current "Seagrass-Watchers" to see the trends in their data and that of other Seagrass-Watch sites from around the globe. The local media also made an appearance to conduct interviews.



Collecting seeds in Fiji for the first time

On Monday 18th, a special training session was conducted at the International Secondary School, Suva. The 20 students who attended were given a theory and field session. The one hour theory session involved seagrass identification, seagrass ecology and importance and Seagrass-Watch



Workshop participants wrap up with a group photo



Mihle, Natasha, Dora, Anne Marie and Janelle monitor transect 3



Karen, Pip and Evan on site SV1

Seagrass-Watch has two sites (SV1, SV2) established on the intertidal banks at Nasese. The meadow is comprised of *Halodule uninervis*, *Halodule pinifolia* and *Halophila ovalis ssp. bullosa*. Of concern, are the high amounts of epiphytic algae covering the leaves and macroalgae, which formed a thick mat over the grass.

After a short lunch break, it was into the field to monitor SV1, which luckily for everyone was just across the "rara" (oval) from the college. Here participants were able to put into practise what they had learnt in theory. Workshop participants were also enthralled with the seed monitoring (which was introduced to Fiji for the first time at the field session), and were amazed at the fact that seagrasses did produce seeds. Karen Vidler, the inaugural Seagrass-Watch coordinator, who was passing through Fiji on her way back to Tonga (where she is now based) also attended the field session. The day was wrapped up with a presentation of certificates, and prizes.

Troy, Amy, Merewalesi and Charlene discussing species composition



Above: Identifying seagrass. Right: Local media covering the workshop



monitoring protocols. It was then down to Nasese for the field session where under the guidance of teachers, Amy Lee and Troy Hayduk, the students established and monitored a new site (SV2), as part of their environmental initiative.

Local villagers were out in numbers gleening on the intertidal flats and others were also taking advantage of the extreme low tide to ride horses over the vast flats in front of Suva city.

Next on the monitoring list was Tagaqa on the Coral Coast (20th June), where a Seagrass-Watch



Above: Searching for more seeds!

Above: International Students learn the importance of seagrass



Above: Len and Amy run through setting up a site at SV2. Amy demonstrates the hand signals.



Left: Len discusses percent covers





Above: Villagers gleaning the flats of Nasese. Horse riders on an afternoon trot.

site (TQ1) is established in the 1.6 hectare *Halodule pinifolia* dominated meadow. The site is on the intertidal reef-flat in front of



Hideaway Resort, and is monitored by Seagrass-Watch HQ. The site is also immediately adjacent to a “tabu” area declared by Tagage village. Just over 20% of the seagrass meadow is within the designated tabu area. Four seagrass species are found in the meadow: *Halodule uninervis*, *Halodule pinifolia*, *Halophila ovalis ssp. bullosa* and *Syringodium isoetifolium*. The most noticeable feature of the meadow condition is the high amount of epiphyte cover on the leaves, possibly a consequence of elevated water column nutrients. After an hour and half drive from Suva, HQ with help from local Seagrass-Watchers, Nicky and Yogi (with grand daughter Aiko) monitored the site at TQ1.



Above: Sampling at Tagage

Cawaci Sites on Ovalau Island, in the Lomaiviti Group, were to follow. But first the team had to get over to the island, which involved over 5 hours of travelling, by road and sea.

Seagrass-Watch has two sites on Ovalau (CW1, CW2), on the large intertidal meadows (*Halodule uninervis*, *Halodule pinifolia*, *Syringodium isoetifolium* and *Halophila ovalis ssp. bullosa*), located opposite St John's College. The sites are monitored by Masao & Nicolette Yoshida, Shaun Ashley, Charlene Ashley and Seagrass-Watch HQ. In recent years the reef has experienced blooms of green algae and physical disturbance from extraction activities. The fringing reef is popular at low tide with villagers fishing and gleaning. On Monday, 25th, the team arrived at Cawaci to monitor both sites. It was noted that the seagrass meadow at CW2 had increased quite dramatically since the site was last monitored in January. The



Ferry to Ovalau



Monitoring Cawaci sites

sediment composition for the site had also changed from Gravel/Sand to more Mud/Sand. HQ also trialed seed monitoring for the first time at Cawaci - 51 whole seeds were found.

Seagrass-Watch HQ was back on the main island of Viti Levu on the 26th to monitor a site at Nadroga Navosa, in Cuvu Bay. There are large seagrass meadows, but they are threatened by



Nadroga Navosa seagrass



Len setting up CW2

turbid flood waters from the Voua river. Meadows are dominated by *Halophila ovalis ssp. bullosa*, *Halodule uninervis* with some *Halodule pinifolia*. *H. uninervis* is much denser in the channels or intertidal pools. A Seagrass-Watch site is located on intertidal banks separating Cuvu village and Shangri-la Fijian Resort. It was a race against the incoming tide and strong currents at Nadroga, which had completely covered the site to knee depth by the time monitoring was completed.

Monitoring moved to Natadola on the 28th where small patches of *H. uninervis* and *H. pinifolia* can be found on the fringing reefs of Natadola Beach. The seagrass has very little epiphyte cover and the environment excellent water clarity. Although relatively pristine, the meadows are threatened by adjacent coastal development. Natadola beach is now under major redevelopment, with a number of international hotel chains currently under construction directly behind the Seagrass-Watch site.

A new Seagrass-Watch site was established (30 June) on the intertidal flats of Denarau island, Nadi. The island is 684 acres and is located west of Nadi. Denarau is a reclaimed mangrove island and is connected to Viti Levu via a small causeway. Species composition at the Seagrass-Watch site (DN1) was comprised of *Halodule pinifolia*, *Halophila ovalis* and *Syringodium isoetifolium*. 🌱

Monitoring seagrass meadows at Denarau Island.



Above: Monitoring Natadola Beach



Halophila ovalis ssp. bullosa

