Seagrass-Watch news

ISSUE 21,
November 2004

Seagrass-Watch is still going strong, with monitoring now occurring at over 150 sites across 10 countries. In this issue you can read about the launch of the Seagrass-Watch website, see the results of research on seagrasses at Green Island, and recognise the past service of a few significant volunteers to the program who have since left us. This issue also includes reports from across the regions & countries currently participating in the program.

As this is our last newsletter for 2004, a big thank you to all volunteers who collected valuable information on the status and condition of seagrasses in their region. Please keep your articles coming and have a safe festive season & new year.

Contents:

Seagrass-Watch on the web

Seagrass-Watch is now online, so you can keep up to date on latest news and information in the Seagrass-Watch community, not just locally but also globally. You can now download the latest Seagrass-Watch information, newsletters, manuals and publications from www.seagrasswatch.org.

You can register online with a direct link to Seagrass-Watch HQ, or you can print a form and send via snail mail. Latest newsletters and those newsletters dating back to the start of Seagrass- Watch can be viewed from the Newsletters section of the website. The Seagrass-Watch manual, field guides and data sheets are available to download so volunteer groups can now print out their own sheets to get into the field sooner. Publications relevant to seagrass research including reports on specific Seagrass-Watch sites are also available with new documents being added as they come to hand. Some of the documents are large, so check the size description in brackets next to the article prior to downloading.

Look at how widespread Seagrass-Watch has become on the world map in the monitoring section. As this is the first stage of the website, eventually there will be links with the locations on the maps to show what data is being collected from these sites along with contact details of local Seagrass-Watch coordinators in those regions.

The Latest News section of the website will allow volunteers to showcase their new and exciting adventures online to the rest of the Seagrass-Watch community. This will also allow Seagrass-Watch HQ to inform groups of any new meetings/workshops or conferences coming up.

The site was designed by Cairns based webdesigner Gabrielle Cooney of justpurple new media: a multi award winning website company specialising in design, maintenance, hosting and search engine optimisation services. justpurple new media was recently voted a finalist in the Telstra TNQ Media Awards and they have also won several Australian Webdesigner Awards and a Golden Web Award (for more info visit www.justpurple.com.au).

Future additions will also include a section where you can enter your own data into a downloadable spreadsheet, which can be emailed to Seagrass-Watch HQ. Plans to make the site more interactive and fun for our smaller Seagrass-Watch volunteers are also underway.

For those interested people who don't have access to a computer, the website is also available on CD. Suggestions or comments on the new website are always welcome, just send an email to seagrass@dpi.qld.gov.au.

ISSN 1441-4236

Great Sandy Strait Fauna & Flora Watch

Gordon Cottle & Steve Winderlich report

The most encouraging news we have to report is the receipt of funding. Firstly we received $1090 from the Volunteers Small Equipment Grants for the purchase of two Garmin VHF Radios 725e, the GST component coming from a donation of $100 from Maryborough City Council. Then, following upon our joining with the Lower Mary River Land and Catchment Care Group Inc. and our subsequent contribution to the NHT proposals through Burnett Mary Regional Group for Natural Resource Management Inc we received $5000 for general expenses.

June and July were busy months with calm weather and good tides, enabling us to monitor Poona, Brown's Gutter, Reef Islands, Boonooroo and Tinnabar sites, mostly on the QPWS vessel, and a successful trip to Wanggoolba Creek with *Zostera* cover from 30 to 60% on a previously recorded barren site, with extensive dugong feeding trails.

This work has been followed up over the week of 27th August to 3rd September, through the able organization and seamanship of Steve Winderlich, who introduced a diverse group to the pleasures of houseboat cruising. The party comprising Anne O'Dea and Aaron, Helen Latham, David and Lee Field, Italian Marine Science student Daniele Cagnazzi and Gordon Cottle boarded Luxury Afloat houseboat Resolution at Tin Can Bay.

The multiple purposes of the trip were to assist Daniele in his Indo Pacific dolphin identification study, look out for turtles and dugong, and carry out seagrass monitoring at sites only accessible by water.

Leaving Tin Can Inlet the first stop was at Kauri Creek site, then across the Strait to the western side of Fraser Island and an overnight stop in Brown's Gutter. A very pleasant evening with musical entertainment from the multi talented Steve, Lee and Helen on guitars and Anne on percussion.

The following day provided opportunities for dolphin watching until the tide ran off, when Anne, Danielle and Gordon monitored BG3 and BG1, whilst the intrepid Steve and party attempted to reach BG2 from the eastern bank by walking !!!! across to the site on the western side.

From reports received the mud was knee deep plus and belly crawling was resorted to. We stayed in the Gutter overnight.

On the third day we ventured into the Reef Islands and were able to monitor RI3 and RI1, before heading into Garry's Anchorage for the overnight stop.

The Monday morning was intended to be an early start, but we awoke to thick fog and nil visibility, which did not clear until 0900 hours.

A steady run back to the mainland into Tuan channel, where David, Lee and Gordon regretfully had to leave.

For the next three days the weather made for poor working conditions but the team managed to photograph some more dolphins and put a new seagrass site in near the Moonboom Islands next to the Maaroom township which had been an ambition for some time.

The tides for the remaining two days made seagrassing impossible but considerable time was spent helping Daniele with his Dolphin work and recording wildlife sitings.

All in all an enjoyable time was had by all apart from running out of fuel on the last day it was largely uneventful.

The team highly recommends this method as a way of combining various environmental projects with leisure including the odd spot of fishing and enjoyable company. The food was not bad either.

Hervey Bay regional roundup

In August, Eileen and Andy Finglas monitored the Burrum Head sites, with some difficulty due to the wind holding the water over the intertidal banks at BH1. On the way over to BH2, they observed several dugong feeding trails and lots of seagrass, which is good to hear. Unfortunately, Eileen and Andy must retire from monitoring the Burrum Heads sites from the beginning of 2005 as they have other commitments. The "torch" has been passed on to Wendy Jones. Eileen and Andy wished to pass on the following message to everyone:

"It has been a pleasure to have known you all and we have both enjoyed the years that we have done the monitoring."

Public Presentation

Seagrass-Watch 1998-2004

Everyone Welcome.

Thursday 9 December
Hervey Bay City Council Chambers
7pm

and

Friday 10 December
Maryborough EPA office
corner of Alice and Lennox streets
1130am

Presented by:
Len McKenzie
Senior Research Scientist & Seagrass-Watch Program Leader
Department of Primary Industries & Fisheries

Updating the seagrass monitoring program and its results and giving a status report of seagrass in the local area

Volunteer Honour Role

RECOGNISING PAST SERVICE

By Steve Winderlich

The success of the Hervey Bay dugong and seagrass monitoring program, the Great Sandy Strait Flora and Fauna Watch, and all volunteer programs, relies on the dedication of many people who freely give of their own time and resources. In most cases involvement in the program has to be juggled around other commitments such as work, family, health and the need to have some personal recreation time. From time to time these other commitments result in volunteers having to reassess priorities and either scale down or stop their involvement at least for a period of time.

Seagrass-Watch HQ and QPWS are very keen for these people to know how much their efforts have been appreciated, and that should they be available to be more actively involved again at any time in the future they would be welcomed with open arms.

It is difficult to single out particular individuals for special thanks but in some cases the contribution of some volunteers warrants special mention. Special thanks therefore goes to the following volunteers for long and valued service.

Gerry Comans.

Gerry has been involved in the marine environment of Hervey Bay and the Great Sandy Strait for many years as a commercial fisherman and charter boat operator. Gerry was integral in establishing the Seagrass-Watch program, was a founding member and was the local coordinator in Hervey Bay for several years. Gerry was never backward in bending the ear of anyone from politicians, researchers, public servants to members of the public if he saw a need. Much of the success of the program in the local area is due to Gerry's passion and dedication.

Gerry has now moved on to enjoying retirement, pursuing his long held ambition to travel the world and more recently he has moved in to breeding birds. We wish Gerry every success in his endeavours.

Right: Jerry with Rob Coles, accepting Environment Award from Prime Minister John Howard.

Below: Jerry with Wendy Jones and students from Yarrilee State School.

John Roberts

John was a founding member of Seagrass-Watch and the local Great Sandy Strait program. His intimate knowledge of the local marine environment gained through years of fishing both recreationally and professionally was invaluable to establishing long-term monitoring sites and running the program. John's keen and friendly approach was integral in attracting new volunteers to the program and in raising the profile of caring for the marine environment particularly in the Great Sandy Strait area.

Regrettably John's involvement in the program has had to take second billing to work commitments and the small matter of raising a young family with wife Donna. We wish John every success in these endeavours and hope to see him out sloshing through the mud again sometime in the future. (There is no truth to the rumour that John and Donna have named their children *Zostera* and *Ovalis*).

Garry Nielsen

Garry is well known in the Great Sandy Strait for his knowledge of and passion for the protection of the marine environment. He has had a long involvement primarily through his love of fishing, which enabled him to develop an intimate knowledge of the area.

Garry is renowned for his selfless involvement in the program donating considerable amounts of his own time and resources. This is shown by they way he embraced the volunteer program once he became involved in seagrass monitoring through to forming with several other locals the Great Sandy Strait Fauna and Flora Watch. This volunteer group extended their involvement beyond seagrass monitoring to many other issues such as assisting with marine strandings, wading bird surveys, coordinating litter pickups, and distributing information to all users of the waterways. Garry also never refused any cry of help from many locals and assisted many with the maintenance of their vessels and motors and in countless other areas.

Recently work and other commitments meant that seagrass monitoring and other volunteer activities have had to take a back seat but it is hard to imagine that due to his passion and dedication to the cause that Garry will not be involved in some way into the future.

Well done good and faithful friends, we wish you every success for the future but don't be strangers, our door is always open.

Whitsundays Region - Queensland

Monitoring News

Margaret Parr Reports

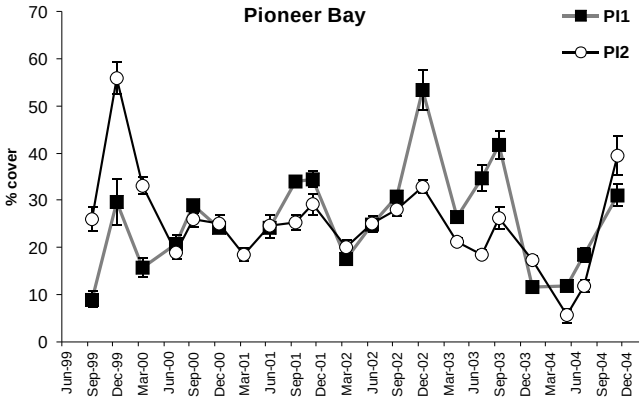
Members of Seagrass-Watch in the Whitsunday's took advantage of the last sufficiently low tides of the year to monitor sites at Dingo Beach, Hydeaway Bay and Laguna Quays in October.

These sites are all located just off the beach, easy to find and easy to monitor. All of them looked in good condition and it is always a pleasure to see the new spring growth. At Laguna Quays, we sampled for seeds on both sites but found very few.

Low tides around dawn in Pioneer Bay in mid November meant early starts for us. Over two mornings we replaced the temperature loggers and almost finished all 4 sites before the tide beat us. We recorded new growth of all three seagrass species and a few dugong feeding trails between PI2 and Pi3 (see pictures below). The *Zostera* in most places appeared to be stressed (possibly heat) and there was quite a few large leafed *Halophila ovalis* at PI2. The amount of mud on our sites has declined although there are still large patches over the Bay and with the lot of northerly winds lately a lot of wrack has washed up on beach.

The Whitsunday Seagrass Watchers wish all fellow Watchers a very Happy Christmas and a Happy and safe 2005.

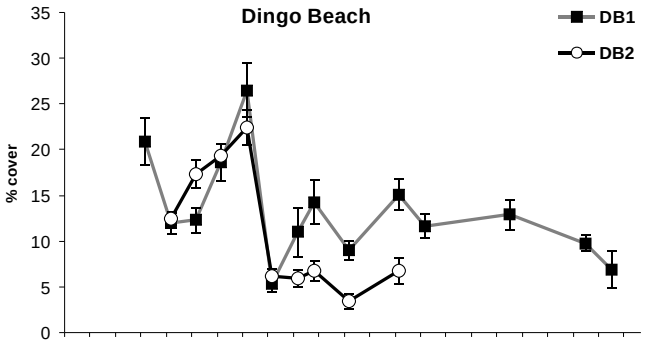
Above left: Valerie & Geoff Dunn
Above right: Eileen Lavis, Betty Wilson & Margaret Parr

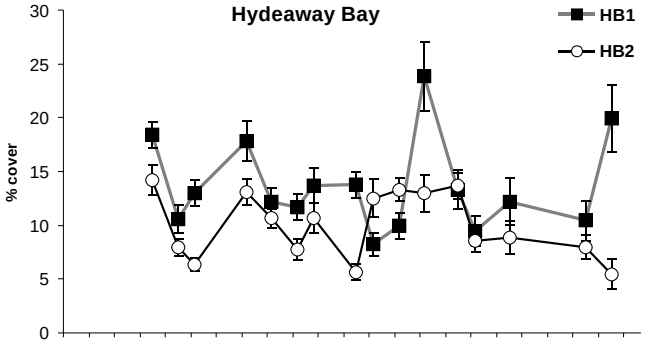


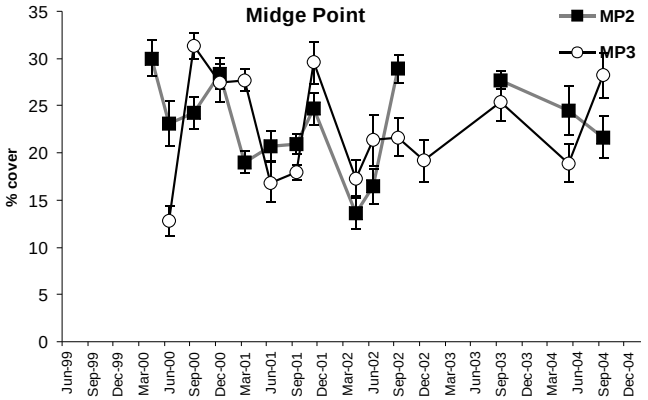
Regional roundup

On the most recent sampling trips, the teams reported patchy but healthy seagrass cover on most of the sites. PI1 and PI2 seagrass cover showed a significant increase since the last sampling in July, although sites PI3 and PI4 have changed very little. Unfortunately, seagrass cover at Dingo Beach has continued to decline at the monitoring site and this may be a location to watch more closely with the summer now upon us. Just around the corner at Hydeaway Bay however, seagrass cover has seasonally increased at site HB1, but HB2 has remained low. A similarly pattern is evident at Midge Point sites MP3 and MP2. None of the sites are showing any significant changes in seagrass composition, algae or epiphyte cover.

Monitoring at Dingo Beach







Townsville Region - Queensland

Townsville-Thuringowa Seagrass Watch

Karen Bird reports

Townsville-Thuringowa Seagrass-Watch visited Shelley Beach (SB1) on 23rd October at 11:30 am with a 0.74m tide. Thankfully the tide kept at bay long enough to finish the seagrass transects. Overall the site had less algae and more seagrass since last time, however there weren't as many invertebrates or signs of other sea-creatures. It was great to have four new volunteers along who were trained, by Jane, in the art of Seagrass-Watching. New volunteers included Jane and Florence from Wildlife Preservation Society Queensland, Jason from Great Barrier Reef Marine Park Authority and Michelle. We also had our trusty regulars along Dick, Jane, David and Leanne. All seemed keen to give the midnight monitoring a go in January!! Once again the beautiful North Queensland weather and the wonderful hardworking volunteers made it an enjoyable day and a successful monitoring trip.

Townsville Regional roundup

Shelley Beach (SB2)

A glorious Sunday beckoned, but did we stay at home for brunch, no, it was on to the mudflats and Seagrass-Watch. "This was the most expedient Seagrass-Watch trip I have ever participated in" David Reid was over heard saying. This was no wonder given the scientific depth of this expedition. There were no less than five marine science graduates all experienced in the art of running transects and estimating per-cent cover. Many "aahs" and "oohs" were heard through the course of the afternoon as small wonders of seeds, and male and female flowers were spotted. This meadow has blossomed since we first started monitoring it back in 2000 after cyclone Tessi. We have seen a succession of species dominate this site with *Zostera capricorni/mulleri* coming to the fore. It will be interesting to see how this meadow fares if we get the big wet we are all wishing for in "Brownsville".

Above left: Anto and Linda determine the sediment type.
Above right: Kath measures seagrass canopy height

Bushland Beach

Since the last newsletter, the Bushland Beach team have been out monitoring their site twice. In August whilst the seagrass looked quite healthy there was quite a covering of algae that lay on top of the seagrass. The other thing that was most noticeable about our site was the change in positions of a number of sand banks and gutters, most likely due to a spate of really strong winds.

Above left: Lux and Belinda monitoring in August.
Above right: Sandy and Sharon counts seeds in August

On November 27th , a band of 7 hardy souls braved the elements, sandflies and sleep deprivation to monitor the seagrasses at 2:30am. This early morning sortie was belted upon by squalls that eventually cleared to a beautiful moonlit sky. Despite the elements and much joking about croc spotting, the group set off to find their site, confident that they would spot the marker without the aid of the GPS, which didn't turn up (did it Peter!). The group soon discovered that things didn't look at all the same at night, and eventually had to abandon any hope of finding the site before the tide turned. All was not lost, however, as we did find the seagrass meadow and proceeded to evaluate the seagrass cover, composition and length from randomly chosen quadrats.

Left: Lux, Rosie and Leanne estimate percent cover

Below: Rosie sheds a little light for Lux

Intrepid Band. Clockwise: Rosie, Leanne, Lux, Greg, David and Karen

Back Beach, Thursday Island

By Kerrin Morrissy

To conduct three transects at Back Beach, Thursday Island, myself and other Seagrass-Watch volunteers rose at 5:30am to catch the low tide. After being briefed by our team leader Jane on the easiest way to identify different seagrass species and on general methodology, we split into groups and started our 50m transects.

Being new to the Island, I was a bit concerned about the nearby mangroves and the crocodile warning signs. Fortunately however, there were no croc sightings and the transects were conducted successfully. Identifying the seagrass and keeping an eye out for any epiphyte and fauna species was very interesting and by the end of it, even volunteers who had never identified seagrass before, were getting the hang of it.

As the tide came in extremely fast, not all groups were able to complete their transects. Overall however, we gathered a good amount of data. Myself and friends who also volunteered, found participating as a member of Seagrass-Watch so interesting we are now keen to see the wide scale trends that are found in seagrass species diversity and composition along the Queensland coast.

Dawn chorus at Back Beach.
Above from left: Heath, Jos Marianne, Kerrin, Teresa, Jane and Andrew.
Top from left: Andrew, Marianne and Simon

Horn Island Aboriginal Corporation

Whilst up in the Torres Strait, Jane Mellors also spoke with the Indigenous Rangers employed through the Horn Island Aboriginal Corporation about Seagrass-Watch.

Although the tides weren't favourable for doing any monitoring, Jane and the Rangers scoped out a possible site for Seagrass-Watch at Horn Island and deployed a temperature logger at King Pt.

Greg Tom deploys temperature logger, while others on Croc watch.

Indigenous Rangers Melinda Miskin, Trevor Bosuen, Greg Tom, and Chairman Jeffrey Bosuen, participate in classroom training

Seagrass Watch and Clean Beach Days on Thursday Island

Clean Beach Day is an activity that the Thursday Island State School has been running for the past two years. Under the guidance of Vanessa Lee students from the school and other community members have been picking up rubbish from their Island's beaches. Ports Corp and the Torres Shire Council support this quarterly event.

One of the many Clean Beach Teams: Jedocia, Tameka, Jahmon, Rj, Vanessa & Hugh

After picking up rubbish, the troops were treated to a sausage sizzle. As an added extra, the Nutritional Gang from the Primary Health Centre were also present to discuss healthy eating habits with community members.

From healthy snacks to healthy seagrass meadows, Torres Strait CRC Seagrass Watch Co-ordinator Dr Jane Mellors (DPI&F) was also on hand with a seagrass themed badge making activity. Jane spoke to the volunteers, about the flow on effects of rubbish free beaches. This was the first time that Seagrass-Watch had participated in a Clean Beach Day on Thursday Island

In consultation with participants and stakeholders the Thursday Island Clean Beach Program is about to consolidate and expand, with volunteers performing a more detailed marine debris (rubbish) survey and assessing the condition of intertidal seagrass meadows using the proven monitoring techniques of Seagrass-Watch.

Above: Vanessa Lee (clean Beach co-ordinator) and John Clarke (Ports Corp) look on.

Right: Badge making

Below: Healthy Snacks, Nutritional Gang from Primary Health

Papua New Guinea

Motupore Island Marine Training Course

In late October 2004, students from University of PNG, University of Goroka, the PNG National Fisheries Authority, government and non-government organisations, learnt SeagrassWatch protocols at a Marine Training Course at Motupore Island (PNG).

The course from 16th October - 13th November was coordinated by the Wildlife Conservation Society with assistance from the David & Lucile Packard Foundation and the Montupore Island Research Centre. The course covered a diverse selection of topics on tropical marine ecosystems including coral reefs, reef fish, reef macro-invertebrates, mangroves, seagrasses and fisheries. Students learnt how to assess these marine resources, how to conduct monitoring, how to identify threats and about marine conservation and management. The course was coordinated by Michael Marnane (WCS) and included lectures from Dan Afzal, Mark Baine, Thomas Maniwauve, John Ben, Ursula Kaly and Morgan Pratchett. The seagrass component was conducted by Len McKenzie who not only taught the students about seagrass biology and ecology, but also instructed them in the rapid assessment of seagrasses using the SeagrassWatch protocols.

Participants learn seagrass identification (above) and Seagrass-Watch monitoring techniques (right) at Motupore Island Research Centre

Motupore island is a small island within Bootless Bay/Inlet, approximately 15km SE of Port Moresby. The island is virtually surrounded by seagrass meadows, as extensive fringing reefs are prominent on the southern and western side of the island. Motupore Island has been the site of several seagrass research projects in the 1970's/80's. The work conducted there was some of the earliest research on tropical seagrasses including zonation, the relationship between leaf shape and water depth, epiphytes and growth. Growth studies on *Enhalus acoroides* conducted at the island in 1976, reported maximum leaf growth rates of 2.33cm per day in November/December.

The monitoring site with the Motupore Island Research Centre in the background

It is generally agreed that there are 13 seagrass species present in PNG. Seagrass species diversity is highest in the southern part of the country (adjacent to Torres Strait) and declines towards the east. The highest number of species reported is 13 from Daru, followed by Motupore Island and the Fly Islands each with 10 species. Major seagrass meadows occur in the coastal bays surrounding Port Moresby and local conditions may often determine which seagrass species are present. Extensive mixed seagrass meadows are the dominant community type, dominated by *T. hemprichii* and/or *E. acoroides*, with up to another 10 species present to varying degrees. Areas of the coast were seagrasses do not exist are along the 500km of gulf coast between Port Moresby and Daru, a possible consequence of high silt loads and large volumes of fresh water in the run off from the Fly and Purari Rivers.

Students entering Seagrass-Watch monitoring data

Fiji

Cawaci - Ovalau

Saint John's College Seagrass-Watch team reports

Bula from Fiji. With school out for the August holidays, it looked as though the Cawaci sites at Saint John's College would not be sampled. But with the help of local Peace Corp volunteer Ryan Peseckas, and teachers Melanaia Baleinagasau and Kathy Foi, the sites were able to be sampled.

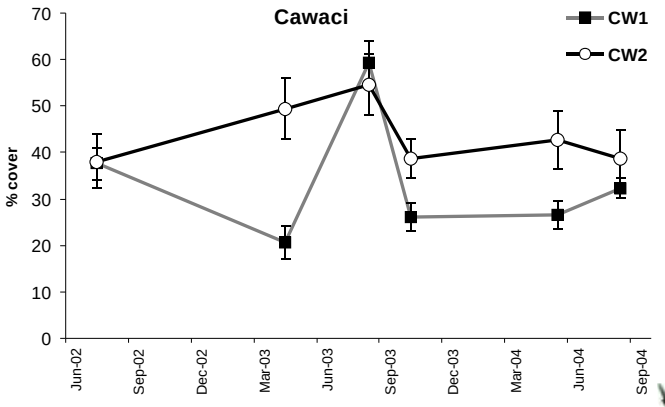
Melanania and Ryan at site CW2

With a low tide at 1pm, sampling started at 11am, the weather held out and the sites were completed at 4pm. With Melanania and Ryan being first timers to Seagrass-Watch, they caught on quickly. Melanania Baleinagasau is a biology teacher at the school and is in her first year of teaching at the college. Kathy Foi is HOD of English and is an "old hand" at Seagrass-Watch.

There appeared to be very little change in seagrass abundance since our last sampling in May, with only a slight increase in cover at CW1. The algae and epiphyte cover however, appeared to have decreased, a possible consequence of the cooler temperatures thin time of year.

Ryan Peseckas is also interested in mangrove replenishment and is looking at planting out areas in front of the school that are being eroded by tides. He is hoping to get the student population involved and has started gathering background information.

So until next time, happy sampling, from the Saint John's College Seagrass-Watch team.



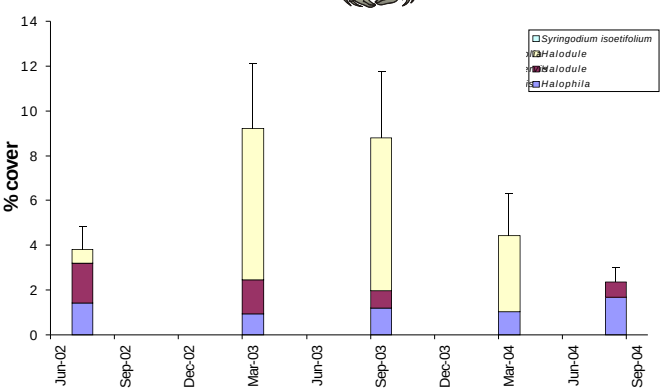
Seagrass-Watch Nadroga

Well Seagrass-Watch is still going strong at Nadroga Navosa. Alfred Ralifo took his students Sera, Ereni and Timoci out sampling on Saturday 14th August. They were assisted by fellow volunteer Jason and Rudi Yoshida and Len McKenzie (DPI&F).

Sampling was done in good time with the weather on their side. The meadow cover was the lowest ever recorded at the site. In March, during the last sampling, high turbidity and sedimentation appeared to be impacting the meadow from nearby streams. Although low seagrass abundance is expected for this time of year, it is possible that the meadow is not recovering. The site is also heavy bioturbated by shrimps (callianassids) and acorn worms, which may be inhibiting a faster recovery. On the good side, several children from the adjacent village were catching fish in the shallow pools, which remained in the seagrass meadow at low tide. Evidence that the meadows were still productive even when in a poor condition.

volunteer students: Sera, Ereni & Litea

From left: Timoci, Alfred & James



Young girls from the village fishing at the monitoring site

Registration

Seagrass-Watch is a community based monitoring program that brings citizens and governments together for seagrass conservation. The information collected can be used to manage coastal environments and to prevent significant areas and species being lost.

To participate in Seagrass-Watch, you must complete and submit this registration form. A confirmation will be sent to your email/postal address. Additionally, Seagrass-Watch may further contact you for additional information.

First Name:

Last Name:

Address:

City:

State/Province:

Country:

Postal Code/Zip

Phone:

Email:

How would you like to participate in Seagrass-Watch? *(Please tick one or more boxes)*

- ☐ **Please send me quarterly newsletters and program updates**
- ☐ **I would like to assist with seagrass monitoring in my area**

Are you a local to the area where you will be conducting monitoring?

If YES, *how long have you been in the area?*

If NO, *how long have you been visiting in the area?*

Have you participated in Seagrass-Watch monitoring before?

Please indicate with a tick in each column, which box currently applies to you.

Employment:	**Age:**	**Gender**	**Education:**
☐ studying	☐ <20	☐ M	☐ School
☐ retired	☐ 20-35		☐ Trade
☐ employed	☐ 36-50	☐ F	☐ Post graduate
☐ not employed	☐ 50-60		☐ Tertiary
☐ self employed	☐ >60		*If tertiary, what field?*
☐ govt. agency			_____

Affix Stamp here

SEAGRASS-WATCH HQ
Northern Fisheries Centre
PO Box 5396
Cairns QLD 4870
AUSTRALIA

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How did you hear about Seagrass Watch? *(Tick one or more boxes)*

- ☐ A friend or relative
- ☐ School or community grp.
- ☐ Media
- ☐ Display

What other interest groups are you involved with in your community?

- ☐ School
- ☐ University
- ☐ Conservation grps
- ☐ Local Government
- ☐ Sporting clubs
- ☐ None
- ☐ Community groups *(e.g., Rotary, Lions, QCWA, Church)*
- ☐ Other *(Please specify)*: _____

What is your interest in the marine environment?

- ☐ Boating
- ☐ Fishing
- ☐ Conservation
- ☐ Local resident
- ☐ Diving/snorkelling

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Mail this order form with payment to:

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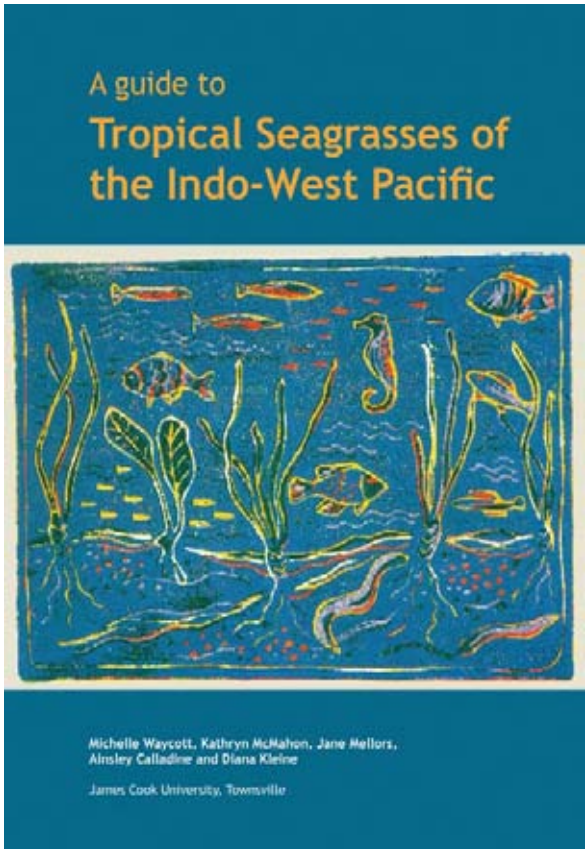
PO Box 5396
Cairns Qld 4870
Phone: **07 4035 0100**

Order form



A guide to Tropical Seagrasses of the Indo-West Pacific.

Authors: Michelle Waycott, Kathryn McMahon, Jane Mellors, Ainsley Calladine and Diana Kleine.
Published by James Cook University, Townsville.
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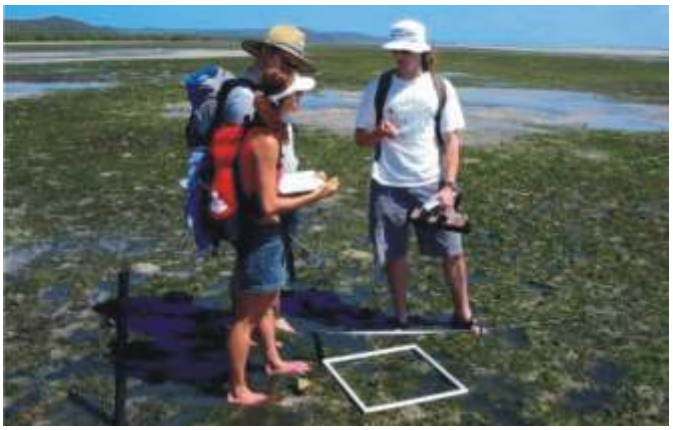
Moreton Bay - Update

Paul Finn reports

July/August 2004 was the latest period of seagrass monitoring in Moreton Bay. The number of sites that have been established to date is 54. The number of sites that have been adopted by trained volunteers remains at 40 and of these, 24 sites were surveyed during the July/August monitoring period. Below are a couple of photographs from two of our most spectacular Seagrass-Watch sites.



From left to right: Rachael Hanna, Dan O'Sullivan and Paul Finn at North Stradbroke Island site 3

We recently conducted a field activity for students from Mary McKillop at Birkdale (see photo). This was great fun and also sowed the seed for future Seagrass-Watchers. We are presently focussing on the current monitoring round (November/ December 2004).

Angel Koch, Finn Morison (front) and Barry Brown at North Stradbroke Island site 2.

The Moreton Bay Seagrass-Watch Program has recently got a website up and running. Some sections are still under construction but you can check it out at: http://www.qccqld.org.au/seagrass/index.

Demika Gilroy 9 (left) and Danielle Hindmarsh 10 from Mary McKillop at Birkdale study the seagrass at Wellington. Photo taken by The Courier-Mail's Bruce Long.

Seagrass-Watch Mackay

By Jon Woodworth

Mackay volunteers are monitoring seagrass at Seaforth and St Helen's Beach to gauge the health of these important habitats. The Mackay Whitsunday Regional Coastcare Facilitator Jon Woodworth said the Seaforth site had three species of seagrass and was an important habitat for turtles and dugongs species. The Seaforth seagrasses has been mapped previously but never monitored.

Volunteers from local groups, including Mackay Turtlewatch, Australian Bird watchers, and the Pioneer Integrated Catchment Management Association have also helped survey beaches in Mackay. "In Mackay itself we only found small patches of seagrass, including a sandy pool containing a good colony at the mouth of the Pioneer River. The river has not had a major flood for many years so this site may be too vulnerable to monitor long term. We also found some seagrass patches at Shoal Point in very rocky conditions which were not suitable for a 50m x 50m monitoring site".

Volunteers use are using the Qld Fisheries [Seagrass-Watch] protocol to measure the various species, percentage cover and any changes over time. A long term Whitsunday Seagrass-Watch volunteer, John Williams, recently moved to Mackay and has helped Jon with the survey work

"Qld fisheries has provided some of the equipment for the survey work, while Dept of Heritage and Environment provide digital camera for the project," Jon said. A Mackay based indigenous employment and training group, Diversity Queensland, has helped set up a second monitoring site at St Helens Beach, 40 kms north of Mackay. "The site is very muddy but has a wonderful meadow containing two species which are very healthy and had very few epiphytes," Jon said. "Some of the quadrants had 85% to 95% cover. I have been working closely with the MWNRM's Water Watch project officers to ensure local water quality monitoring sampling sites can be linked to the seagrass monitoring," Mr Woodworth said.

Mr Woodworth recently presented a talk on the project to the Mackay Whitsunday Natural Resources Management Group Inc. Further survey sites are planned for Sarina Inlet, Llewellyn Bay and possibly Armstrong Beach.

Also important to note is that several deep water seagrass surveys have been undertaken by DPI&F of waters outside the Mackay Port Authority, and Hay Point Coal Loading Terminal point to gauge the distribution of seagrass beds.

Boat ramp at St Helen's beach. The ramp extends another 300 to 400m at low tide, and is presumably degrading the meadow. Note that the grass on the southern side is much greener, while the prevailing SE wind/current is depositing the mud northwards.

Cairns Region - Queensland

Green Island

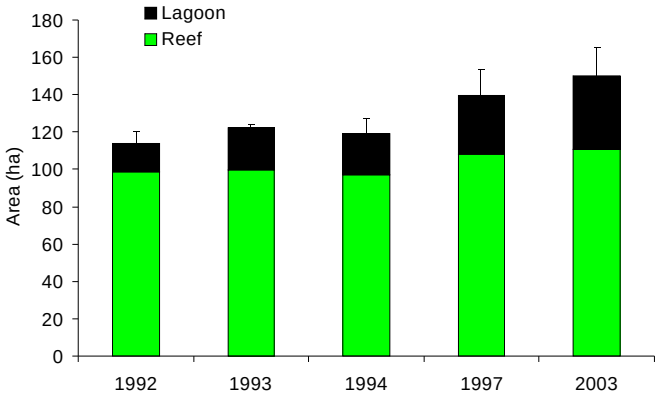
Green Island is a vegetated sand cay approximately 27 km north east of Cairns, in north Queensland Australia. The island is approximately 12 ha in area with a maximum elevation of 4.5m. There are extensive seagrass meadows in the waters surrounding Green Island with at least 9 species identified. Abundance of seagrasses highest in the sub-tidal area in the north western lagoon.

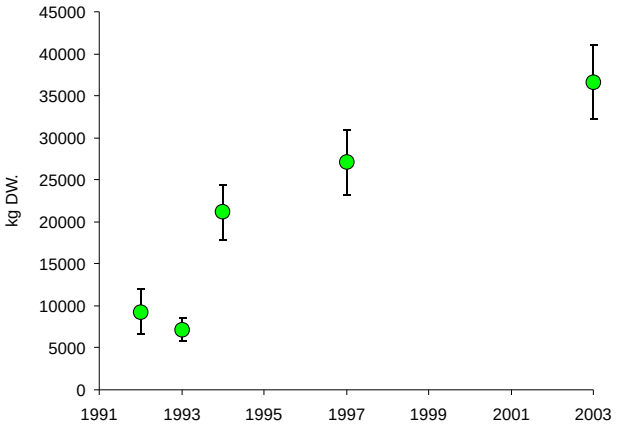
The distribution of seagrass around Green Island has changed substantially in the last 50 years. There was no obvious seagrass in the lagoon to the north west of the island in aerial photographs from 1936 and 1946, however in the 1950's a small area of seagrass was recorded which subsequently expanded in the 70s and 80s. It has long been believed that the expansion of Green Island seagrass meadows were the result of poor water quality on the reef, a consequence of increases in tourist visitation and nutrients emanating from the adjacent sewage outfall. An estimated 70-100 m^3 of untreated sewerage effluent was discharged per day onto the Green Island reef for twenty years until December 1992 when tertiary treatment facilities were established.

In 1992 a survey of intertidal and sub-tidal areas surrounding Green Island mapped 127.5 6.0 ha of seagrass habitat showing an extensive cover of seagrass on the reef flat surrounding much of the island and in the north western lagoon. Seven seagrass species were recorded; *Thalassia hemprichii* was the most widely distributed species and *Syringodium isoetifolium* the rarest. Species of *Halodule*, *Cymodocea* and *Halophila* were also fairly widely distributed.

In mid 1993, the sedimentary nutrients were examined from the main seagrass communities around Green Island, and significantly high amounts of interstitial and adsorbed ammonium and orthophosphate were present. These nutrients bound up in the sediments may remain for several years before they are depleted enough to become limiting to seagrass growth. The presence of such a large nutrient pool suggested that the distribution and abundance of seagrasses on Green Island would possibly continue to increase and that significant changes in species composition may occur over time.

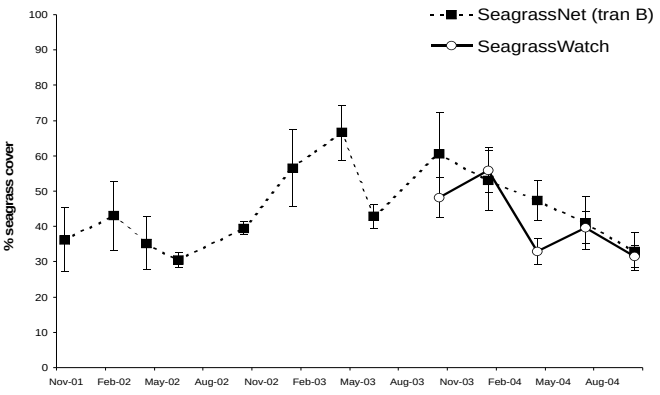
Remapping of the distribution and abundance of seagrass was conducted in mid-late 1993, 1994, 1997 and 2003 and





although the area of seagrass has increased slightly, the above ground biomass significantly increased in both the lagoon and on the reef flat (see graphs). The most dramatic change however, has been the seagrass species composition, with the species *Syringodium isoetifolium* now dominating most of the lagoon meadows. How these changes in the seagrass composition and abundance on Green Island will effect the sea turtle, dugong and fisheries around the island is unknown. Studies by JCU which are trying to answer these questions.

In 1991 quarterly monitoring was established at Green Island as part of the SeagrassNet monitoring program (see www.SeagrassNet.org). In 2003 a Seagrass-Watch site was established so that comparisons between the programs could be investigated. Both programs are reporting natural seasonal variation of cover, but species composition appears relatively stable. Seagrass-Watch monitoring has also reported variations in algae cover and macro-faunal abundance, although these are within levels of natural change.



South-east Asia

Seagrass watch Sabah, Malaysia

Leela Rajamani reports

The torch for Seagrass-Watch in Malaysia will be passed over to Maktab Sabah a secondary school in Kota Kinabalu. Ms Dewi Masayu, biology teacher at the school has expressed great enthusiasm in continuing the program. It is hoped that they will be committed to carry out the program for a longer period of time. A group of 21 students from lower six science and Ms Dewi Masayu met up with me at Sepanggar Bay on the 24th of Oct, 2004. I asked them to pick up whatever plants they found in the sea so that we could have a closer look at them. We identified five species namely *Cymodocea rotundata, Thalassia hemprichii, Halodule uninervis, Enhalus acoroides* and *Halophila ovalis*. The students got to learn to identify seagrass. We did not do any monitoring at this point as the visit was mainly to familiarize Dewi and the students with Teluk Sepanggar . We will be starting seagrass monitoring again in January 2005. I will continue assisting the school until they get the hang of seagrass identification and monitoring.

Above: Seagrass meadow at Sepanggar Bay

Below left: Students from Universiti Malaysia Sabah monitoring

Below right: a young boy from a nearby village with his harvest of animals from a busy day gleaning the meadows at low tide

Seagrass watch, Indonesia

Stuart Campbell reports (WCS Indonesia Program)

Karimunjawa is one of 6 Marine National Parks in Indonesia and is located of the northern part of the central Java coast. The marine park contains vast areas of seagrass meadows growing on sandy islands cays and in sheltered muddy habitats adjacent to mangrove forests. Seagrass meadows in Karimunjawa are fished using traps, spears and lines for a range of fish species commonly eaten by local inhabitants. Reef fish on the other hand, are commonly sold to the mainland as they fetch considerably higher prices. Seagrass areas are also increasingly being used for the placement of seaweed farms, an alternative livelihood being promoted to reduce the pressure on wild fisheries.

As part of an ongoing initiative by The Wildlife Conservation Society to train National Parks rangers in marine survey techniques and develop a new management regime for the park, a number of rangers were trained in Seagrass-Watch techniques in September 2003. In September 2004 the Seagrass Rangers conducted surveys at 6 sites of seagrass significance identified by local inhabitants and the Marine Park Authority. In November 2004 staff from the Wildlife Conservation Society will assist the Seagrass Rangers to conduct park wide surveys in a bid to identify further sites for Seagrass-Watch monitoring.

Above: Fish pens over seagrass meadows.

Above and right: National Park rangers and WCS staff monitoring seagrass in Karimunjawa marine park

Below: Enhalus acoroides meadows adjacent to coastal village

Posidonia australis Monitoring in Corner Inlet (Victoria).

Rebecca Koss (PhD Student), Deakin University

Issue 19 (February 2004) of Seagrass-Watch News introduced readers to a community based monitoring project piloted to monitor *Posidonia australis* seagrass beds in Corner Inlet Marine National Park, Victoria. I will provide a brief overview of the project as some time has passed since February.

Parks Victoria and Deakin University's School of Ecology and Environment introduced a new community based monitoring program for seagrass beds. This project will assist in the management of Marine National Parks and Marine Sanctuaries along the Victorian coastline. By monitoring the Posidonia australis seagrass beds over a long term period, the monitoring will indicate any changes in seagrass health. This in turn will produce a greater understanding of the differences made by the establishment of a Marine National Park in Corner Inlet. It is hoped that seagrass monitoring program will be undertaken by other community groups along the Victorian coastline to monitor other species of seagrass.

On a very cool weekend in February, six members from Friends of the Prom (FOP) community group participated in a seagrass monitoring training weekend. The first training day consisted of a talk by Jonathon Stevenson, the Parks Victoria Ranger for Corner Inlet Marine National Park, who introduced the FOP members to the beauty of Corner Inlet, its marine habitats and the importance of having marine protected areas. This was followed by a talk given by Rebecca Koss explaining the monitoring protocols and equipment used to undertake seagrass monitoring. A mock trial of seagrass monitoring was undertaken on a terrestrial grass field to allow volunteers to familiarise themselves with the equipment and monitoring protocols.

Due to the inclement weather on the second training day, it was deemed unsafe to undertake monitoring on the Posidonia australis seagrass beds in the marine park as these seagrass beds had to be approached by boat. However, all the training was put into practice by monitoring intertidal *Zostera muelleri* seagrass beds, which were accessible from the shore line.

Two weekends later in March, one volunteer from the FOP participated in further seagrass monitoring. The weather was beautiful and the tide was very low exposing the usually subtidal *Posidonia australis* beds. Every participant donned a wetsuit and the seagrass monitoring was underway. The beauty of Corner Inlet was more apparent from the water and all participants were excited by the colour and diversity of Corner Inlet's marine flora and fauna. As only one volunteer was present, only one transect was completed.

During the winter months, S.E.A.L. Diving Services, a dive club based in Traralgon, Victoria, were incorporated into the seagrass monitoring project. As the water temperature was a balmy 12-15 degrees, thicker wetsuits, and in some cases drysuits, were worn to prevent against hypothermia. It was a beautiful day for the monitoring, and not a cloud in the sky considering it was winter. All participants enjoyed monitoring the the seagrass beds and there was time for a recreational snorkel to explore other seagrass beds. Two transects were completed within an hour.

Monitoring of the Posidonia australis seagrass beds will continue during the 2004/2005 summer season. The protocols utilized in the above pilot study will be finalized and be available for other community groups to use for seagrass beds around the Victorian coastline.

For more information, email:
rkoss@deakin.edu.au

Rob monitoring seagrass

Okinawa Jangusa Watch

By Masahito Yoshida
Nature Conservation Society of Japan

In Okinawa, Seagrass-Watch program called Okinawa Jangusa (literally means dugong grass) Watch celebrate its two years anniversary. Together with Masahiro Nakaoka, Chiba University and Naoko Kochi, Hokkaido University, I joined the Seagrass2004 [conference] held in Townsville, in September 2004 and introduced the Okinawa Jangusa Watch program.

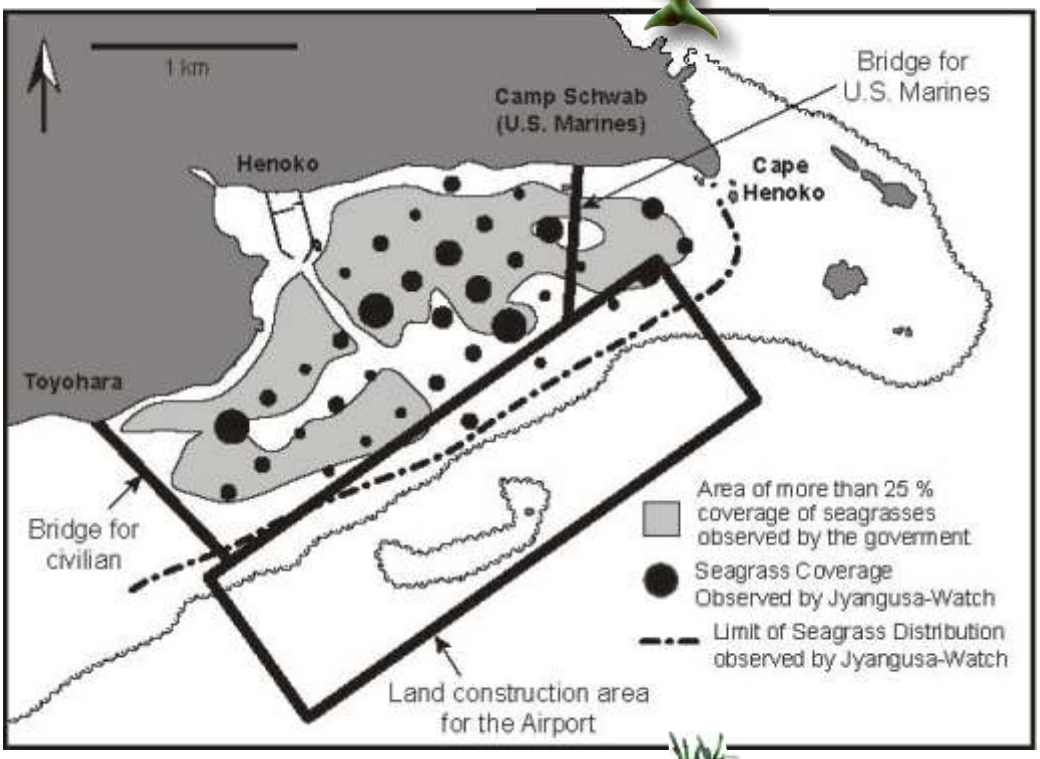
Okinawa Jangusa Watch has been conducted by the Nature Conservation Society of Japan every three month since July 2002, at Kayo and Henoko, along the east coast of Okinawa Island [see Newsletter Issue 17]. More than 80 volunteers joined this program after the training course including training of seagrass identification as well as training of percentage cover evaluation. Kayo is an ideal site for beginners' training because we can easily approach seagrass bed from coastline. Henoko has the largest seagrass bed in Okinawa Island and we need a scientific data immediately because an airport construction plan for the US marine corps is now under the environmental impact assessment. Both sites are important habitat of endangered dugong population, a northernmost of its global distribution.

Study area off Camp Schwab, Henoko, Nago City.

In Kayo, we conducted line transect survey. We set five 200 m lines every 50 m apart and established study point every 50 m along each line. Five to ten quadrats were set randomly at each study point. As we targeted larger area in Henoko, we used grid survey technique instead of line transects. We arranged horizontal and rectangular lines every 200 m apart. A total of 60 to 70 study points were designed at the intersection of two sets of lines. We approached every study points by boat with a help of GPS unit.

Thalassia hemprichii had a broad distribution throughout the entire survey range, whereas *Syringodium isoetifolium* was restricted to shallow water. *Halophila ovalis* showed significant growth after the big typhoon in October 2002 when tide and waves disturbed seagrass colonies. *Halophila* shows characteristics of pioneer species that the first ones to come back after disturbance.

In Henoko, we found larger seagrass distribution by free diving than we expected from the analysis of aerial photographs. The Defense Facilities Administration Agency (DFAA) of Japan showed a map of seagrass distribution of percentage cover greater than 25%. We found dugong feeding trail where percentage cover less than 25%.



The Naha Bureau of DFAA, on November 17, launched the drilling survey at the dugong habitat in Henoko, without waiting the completion of EIA. IUCN - the World Conservation Union adopted a recommendation, on November 25, at its third World Conservation Congress held in Thailand to request the Government of Japan to conduct an EIA with overall study including comparisons with alternative sites or zero construction option and study of impacts from drilling survey.

puzzles

Which of the following Seagrass-Watch locations or countries is missing?? Answer on page 20.

Archer Point
Australia
Baffle Creek
Bakau Island
Bennett Creek
Betikl
Bol Village
Boonooroo
Booral
Browns Gutter
Burrum Heads
Bushland Beach
Cairns
Cawaci
Cid Harbour
Cooktown
Damasa Island
Dingo Beach
Dundowran
Ellie Point
Federated States of Micronesia
Fiji
Flores
Gizo
Great Sandy Strait
Green Island
Hervey Bay
Hydeaway Bay
Indonesia
Japan
Karimunjawa
Kauri Creek
Kavieng
Kemujan Island
Kisacs
Komodo
Kosrae
Laguna Quays
Lavongai
Lelu Harbour
Madang
Malaysia
Manado
Mbambanga Island
Menjangan Besar
Menjangan Kecil
Midge Point
Midgeton
Mongop
Nadroga Navosa
Nan Madol
Napranum
Okinawa
Ontoloe Island
Palau
Panamecho
Panapai
Papagaran
Papua New Guinea
Peel Island
Pelican Bay
Philippines
Pigeon Island
Pioneer Bay
Pohnpei
Poona
Reef Islands
Sabah
Sandfly Creek
Seaforth
Sepanggor Bay
Seraya Kecil
Shelley Beach
Simosle
Solomon Islands
St Helens Beach
Teluk Ambong
Terremmel
Thailand
Thursday Island
Tin Can Bay
Tinnanbar
Toogoom
Tootoowah Creek
Torres Strait
Trang
Urangan
Wanggoolba Creek
Whitehaven Beach
Wiac Quarry
Wynnum
Yule Point

S R O W E S B A Y K N V Q K A V I E N G O N T H J E F T M F
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P E T G O W A N G G O O L B A C R E E K S Y E N O Y E E H K
A G T O O G A L O C F N A A E L K I T E B N A A Y Y H U E O
G Y B Q O P B C S M O T N Y Z A M Y M M A P W K C W C E J K
A R N R R X U A I I O O D T V R C T X U A B U O E H R D F X
R R D A S Z O C K N N L K V X O M H P J N R D C R C A N G Y
A A N K E E R C H A W O O T O O T A X A A J D O Y B I A N A
N U S M O O G O O T U E E S O B P I F N E G A L L I V L O B
M Q C T N I O P E G D I M G Z W Z L G I D D F W Z F U S B R
H C A E B Y E L L E H S S F I H N A Q S O D A N A M U I M E
B A S R U O B R A H U L E L G P N N I L N A N M A D O L A E
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A W K U L P E L I C A N B A Y N Q Q S N O T E G D I M E U O
A I S Y A L A M I W A D B S W N D U N D O W R A N O O P L I
G L D U P M Q X Q U L R D F R R K O S R A E S I M O S L E P
D N C Q Y A B N A C N I T E R R E M M E L L I E P O I N T X

Puzzles & Refresher

Lateral Thinking

Rising Tide

The rope ladder of a boat hangs over the side of the boat and just reaches the water. Its rungs are 10cm apart. How many rungs will be under the water when the tide rises 1.2 metres?

Coast to Coast

Speedboat A and speedboat B are traversing the east coast of Queensland, from Cape York to Coolangatta, over 2,000 km of coastline. Speedboat A is going from north to south at 30 km per hour, and Speedboat B is going from south to north at 35 km per hour. Which speedboat will be closer to the south coast when they meet? (Hint: You don't have to do any math to get the answer. Just use your head!)

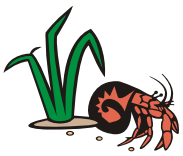
Digging seed cores

How much sediment is in a round hole that is 10cm deep with a diameter of 50mm? (Hint: You don't have to do any math to get the answer. Just use your head!)

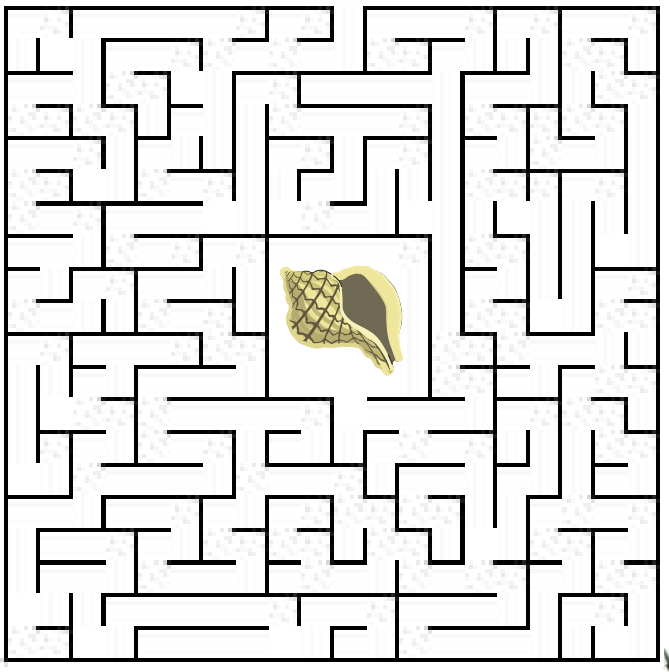
Gone Fishing

Jared sent his cousin a postcard from Poona where he was vacationing with his family in the Great Sandy Strait. Instead of directly telling his cousin the size of the fish he caught, he wrote a puzzle: The fish's head was 5 cm long. The fish's tail was the length of the head plus half the length of the fish's body. The body equalled the length of the head plus the length of the tail. What was the total length of the fish?

For more information on fishing in Queensland, visit www.dpi.qld.gov.au/fishweb



Help the Hermit Crab Find a New Home



Quadrat Photograph Refresher

- Photographs are taken at the 5m, 25m and 45m quadrats along each transect. You can also take additional photos of other quadrats of particular interest (e.g., dugong feeding trail, high algal abundance lots of gastropods).
- Photos are taken before any other quadrat measures, to avoid resuspending sediments by walking in the area which would affect the photo quality.
- First place the photo quadrat labeller beside the quadrat with the correct code on it. The photo code has 6 characters. The first 3 are the site, the next is the transect and the last 2 are the quadrat distance. For example, if you are at Pioneer Bay site PI2, on transect 2 and at 5 metres, the code is PI2205.

- Next, take the photograph from an angle as vertical as possible, which includes the entire quadrat frame, quadrat label and tape measure. Try to avoid having any shadows or patches of reflection off any water in the field of view. Check the photo taken box on the datasheet for that quadrat.

- In some instances (if site subtidal), you may also need to take another photograph from an oblique angle (e.g., 45 degrees), which includes the entire quadrat frame and the quadrat label.

Sediment Recording Refresher

When determining sediment type, the sediment is described as one of, or a combination of:

- Mud
- Fine sand
- Sand
- Coarse Sand
- Shell
- Gravel

You must record the most dominant sediment type first, then the other components. For instance, if you had a very muddy handful with a bit of sand, then it is recorded as Mud/ Sand (NOT Sandy Mud). Recording this information accurately is very important, as often changes in sediment components may be a cause of a seagrass species composition shift.

Seagrass-Watch *news* continued ..

Seagrass-Watch volunteer surveys

By Deb Bass

Last year I circulated a survey to volunteers in the July edition of the newsletter. This survey formed the basis of a research project for my Masters study in Tropical Environmental Management. Thank you for your help in completing this survey. The results from this survey gave me an insight into the background and motivation of Seagrass-Watch volunteers, and through talking to volunteers and Coordinators I was able to compile a profile of the Seagrass-Watch volunteer. My interest in this profile was to explore the concept of volunteer programs enhancing public awareness of the environment through community involvement.

The results I found showed that on average, the majority of Seagrass-Watch volunteers are female (64%), aged between 35 and 60 years (89% were aged over 35), employed, well-educated and have been involved in Seagrass-Watch for about 2 years. Fifty-seven percent of respondents had tertiary education (50% of males and 58% of females) and the majority of those had studied in the field of science/biology (50%).

Not only are volunteers educated in the area of science/biology but they express strong conservation values and became involved in Seagrass-Watch because they wanted to help conserve the environment. Volunteers are generally active within the community and are likely to be involved in one or more other voluntary community groups. They are most likely to join Seagrass-Watch through their involvement in a school or community group (46%), or through a friend or relative (32%).

From this brief insight of a Seagrass-Watch volunteer it raised the question of whether the Program was achieving community awareness-raising of seagrasses and the marine environment, because volunteers were obviously already aware of the environment and the need to conserve it. One of the recommendations I made from this study was that dedicated educational and recruitment programs should be initiated to educate and involve the wider community.

Answers to puzzles:

Rising Tide: When the tide rises 1.2 metres, the boat and its ladder will also rise. So no rungs will be under the water.

Coast to Coast: When the speedboats meet, they will be at exactly the same point. Therefore, they will each be the same distance from the south coast.

Digging seed cores: None. You make a hole by digging out the sediment, so the hole is empty.

Gone Fishing: The fish was 40 cm long: Its head was 5 cm long; its tail was 15 cm; its body was 20 cm. STRATEGY: Draw a picture.

Word find: Missing location is Thursday Island

Reef Guardian Schools

In August and October, Jane Mellors gave Seagrass-Watch presentations to Belgian Gardens and Holy Spirit Primary schools. These presentations were linked with the Reef Guardian School Program organised by the Great Barrier Reef Marine Park Authority. Jane also took the students to Rowes Bay for some Seagrass-Watch monitoring.

The Reef Guardian Schools Program is a new program organised by GBRMPA to encourage local schools to get involved in protecting the environment and the Great Barrier Reef. It provides learning programs that reflect environmental best practice, which enables students to be, committed "Reef Guardians".

Around 120 schools throughout Queensland are registered with the program and are actively involved with projects involving land, waste and water management and the protection of marine environments in the Great Barrier Reef.

The projects being undertaken by schools cover issues such as water quality, recycling, energy conservation and dealing with chemical spills. All projects have outcomes that teach students and teachers alike that their actions can protect an important resource like the Great Barrier Reef. Some of the completed school programs are placed on the ReefEd website for viewing.

Each year, four schools are presented with an "Excellence in Reef Guardianship" award and $5,000 to develop further projects. Any schools interested in getting involved in the Reef Guardian Program should log onto:

http://www.reefed.edu.au/guardians/

Nominations for 2005 programs will close by the end of January 2005.

Do you want to get Involved?

Contact your local Seagrass-Watch representatives:

Cooktown:
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