

# Torres Strait



## Horn Island

Jane Mellors (Seagrass-Watch HQ) reports

In May, Torres Class, Horn Island State School adopted a seagrass site near the Horn Island Jetty (HI1) to monitor. We started our monitoring day off with a lesson on Seagrass-Watch techniques and then a quick session on seagrass identification. Even though we learnt how to identify six species of seagrass, we only had two species Hu and Ho in our Seagrass-Watch plot. We didn't manage to finish monitoring the three transects in the time we had allocated to this task, possibly because the site was really muddy so walking along the transects was hard going. We still had a great time, learnt heaps and laughed lots particularly when Jane got stuck in the mud and fell over.



Carla (DPI&F) with some keen seagrass-watchers from Torres Class, Horn Island State School



Who would have thought identifying seagrass could generate this much excitement??

The highlight of the August trip was the efficiency of which the Horn Island site was monitored. Becky Bowie and Shakira Weston (Thursday Island High School students; Back Beach Seagrass-Watchers) assisted James Stuart and Torres Class, Horn Island State School to monitor this very muddy site. This was the second time this class had monitored the seagrass meadow, and it was poetry in motion to see 17, ten year olds take to the task in an extremely focused and enthusiastic manner. We finished in record time so even had time to go back to the class room for some badge making. Well done Torres Class.



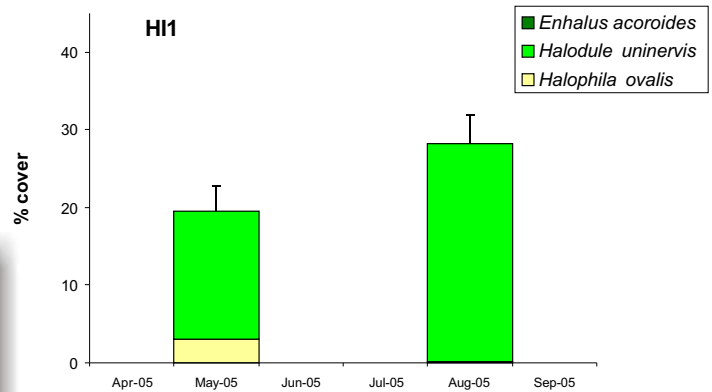
Torres Class Seagrass- Watch



You're supposed to be looking at the quadrat!!!



Now we've got it!!!



## Careers Market CrocFest

Croc Fest is an alcohol and drug free festival that celebrates Indigenous and Non-Indigenous Youth culture in rural and remote Australia. The mission of the Croc Festival is to foster improvement in health, education and well-being of Indigenous and non-Indigenous youth in rural and remote areas of Australia and to assist in the development of their employability and interpersonal relationships. As part of The Thursday Island CrocFest a careers market was held. With the concept of education leads to employment Jane Mellors went north and talked up a storm about how volunteering in projects such as Seagrass-Watch is a great way to gain experience if you are thinking of a career in environmental planning, resource management and research. She was more than ably assisted by Stan Lui (DPI&F) and Dr. Gilianne Brodie (JCU).



Above left: Koeygab talks with Stan Lui and Gilianne Brodie about career and University options. NB: Seagrass-Watch poster in background!!



Above right: Jayda and Becky take notes on how to become a Fisheries Biologist so that they can Seagrass-Watch all the time!!!

# Moreton Bay

# - Queensland

## Seagrass-Watch Update.

Paul Finn (QPWS) reports



March/April 2005 was the latest completed period of seagrass monitoring in Moreton Bay. We currently have 57 sites established within 16 different locations. One of the most recent sites to be established is at Blakesleys Anchorage on the western side on North Stradbroke Island. The number of sites that have been adopted by trained volunteers is 46 and of these, 32 sites were surveyed during the March/April monitoring period (Figure 1). At the moment we are busy with the July/August monitoring period.

Left to right, top: Jodie Smith and Peg Walsh, and bottom: Rae Frawley and Lana Morgan at Deception Bay site 3, just south of Sandstone Point.



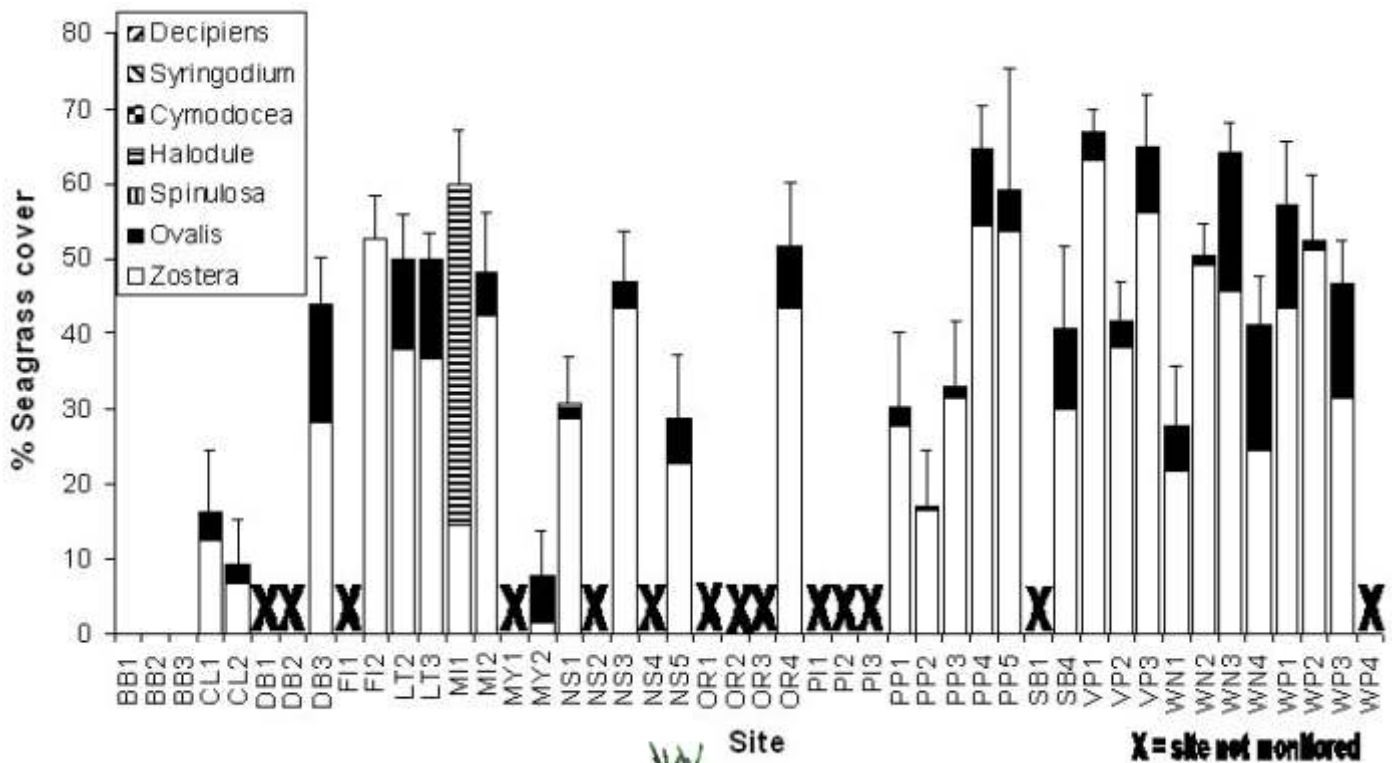
Left to right: Amanda White, Stephen and Jenelle Cox at Victoria Point site 3.



Left to right: David Holliday, Jeanette Watson, Murray Watson and Simon Baltais at North Stradbroke Island site 5 (Blakesleys Anchorage).

Figure 1. The percent seagrass cover (means and standard errors shown) and species composition for all sites monitored during the March/April 2005 period (n=32). Depicts all sites that have been monitored at least once since the program began in May 2001 (n=46) and shows those that were not monitored during the March/April 2005 period (n=14).

In terms of our volunteer database, we have approximately 200 members with 158 trained in the methods. Of these trained volunteers, 104 have adopted sites and are thus currently monitoring. Just over 40 members have nominated to receive newsletters and updates only. We are in the preliminary stages of planning a seagrass rehabilitation experiment in Moreton Bay. Target areas will be those that historically supported extensive seagrass beds but are presently devoid of seagrass, for example, Bramble and Deception Bays.



# Reef Guardians

## Reef Guardians do their bit to monitor and protect seagrass

By Jane McAuliffe, Communications Officer  
at the Great Barrier Reef Marine Park Authority



Schools involved in the Reef Guardian Schools Program, an education initiative of the Great Barrier Reef Marine Park Authority, have been achieving amazing results in monitoring their local seagrass areas and helping to protect them for the future.

As part of the program, schools are encouraged to protect the environment, especially the Reef, and a large number have taken on the responsibility of reporting to Seagrass-Watch on their local seagrass areas.

With many Reef Guardian Schools located along the Great Barrier Reef Catchment, many have the opportunity to experience these unique ecosystems first hand and do their bit to protect seagrass.

These include Magnetic Island State School and Belgian Gardens State School in Townsville, Bwgcolman Education Centre on Palm Island and Thursday Island State School, Cooktown State High School and Horn Island State School. The 'Rowes Bay Junior Ranges' at Belgian Gardens State School, play a vital role in protecting the local marine environments by monitoring the size and health of seagrass meadows at Rowes Bay, a site close to the school.

Dr. Jane Mellors from Seagrass-Watch HQ (Department of Primary Industries & Fisheries) introduced the Seagrass-Watch monitoring program to the grade six teachers and students during a talk on the benefits of seagrass to the marine environment and teachers Gayle Joyce and Brett Murphy were keen to take on the project.

"The students had already formed the 'Rowes Bay Junior Rangers' as part of our involvement in the Reef Guardian School programme and were doing regular beach clean-ups along Rowes Bay, so it seemed a wonderful extension to our program to learn how to monitor seagrass and be involved in Seagrass-Watch," Gayle said.

"We started our monitoring in 2004 with both teachers and students involved in learning the skills involved for monitoring with the expert help of Jane, we then increased the monitoring schedule in 2005 and became fully fledged members of Seagrass Watch."

"Groups of students monitor the seagrass on days designated by Jane and spend a couple of hours measuring and recording the necessary information, students then put the data into the Seagrass-Watch database for their compilation process."

Gayle and Brett have been attending workshops to increase their knowledge of seagrass monitoring so that eventually they will be able to conduct the monitoring program without the assistance of Jane.

Another Reef Guardian School involved in Seagrass-Watch is Cooktown P-12 School in Far North Queensland. Year 11 and 12 Multistrand Science, Marine Studies and Biology students travel to Archers Point, south of Cooktown, every term to continue with their involvement in the Seagrass-

Watch monitoring programme. Cooktown School student, Hannah Lyon regularly participates in Seagrass-Watch monitoring and thoroughly enjoys the day.

"It's great to know that we are helping our dugongs and monitoring the health of our catchments at the same time," Hannah said.

The Cooktown School monitoring programme is co-ordinated by Christina Howley, and teachers Jason Carroll and Sophia Ramke. According to Sophia, the programme raises awareness and provides the students with opportunities to understand and interact with the seagrass ecosystems.

"The students collect information on the meadows so that any changes over time can be identified, with the help of Christina the group has set up a second site to mirror the first and allow for more data collection and Jason has aided the students in identifying the seagrass."

"As more students get involved in the program the level of awareness that the students demonstrate also increases, many of these students are now considering conservation and management as a career," she said.

Overall, thousands of students involved in the Reef Guardian School programme around Queensland are monitoring and protecting their seagrass areas and are leading by example to contribute to a more healthy and sustainable environment for the future.



*Belgian Gardens State School students join with Dr. Jane Mellors from the Department of Primary Industries and Fisheries, Simon Fleming a local spray paint artist and Steve McGuire from the Townsville Marine Advisory Committee to unveil the schools mural which prominently features seagrass and a dugong.*



## Seagrass-Watch Cawaci

Shaun & Charlene Ashley report

In May of this year we took over the Seagrass-Watch monitoring at Cawaci, from Saint Johns College. As it was our first time we found the scenario very interesting and educational.

With two sites at Cawaci, and a low tide at 1154am of 0.2m, we started out at 10am. Luckily for us, the pegs laid out at the last sampling event



L-R: Masao Yoshida with Charlene and Shaun Ashley.

were still in place so that made things a little easier. We noticed that Cawaci has all four species of seagrass which are prevalent in Fiji. It was only during this exercise that we realised the importance of seagrass to the environment and it is also one of the major source of food for most marine organisms. We went about identifying the different types of seagrass situated in the marked area. Then we measured the height of the seagrass and also managed to identify some small marine organisms breeding and feeding in that area. With all the time we took doing the exercise the tide started to come up so we had to do the final reading quickly and call it a day. That evening, we logged onto the Seagrass-Watch website and downloaded the data entry excel file, and entered the data, which we then emailed to Seagrass-Watch HQ.

In August, when we conducted Seagrass-Watch, we found the exercise much easier as compared to the last time. We noticed that quite a lot of changes have occurred as compared to the last scenario three months ago. It was observed that most of the seagrass in that area has decreased significantly with regards to two species, mainly the HP and HU species of seagrass located in Cawaci. Could this fact have been attributed to the climate change as we are now in our cooler months? We are looking forward to our next visit where we can monitor any further changes that may occur.

We feel that Seagrass-Watch is a very worthy exercise and that more people in Fiji should be aware of seagrass, Seagrass-Watch and participate in it, since it will in the long run benefit everybody.

VINAKA VAKA LEVU (Thank you very much)



Shaun, Charlene and Masao monitoring at Cawaci site CW1 in May 2005.



## Seagrass-Watch Lau

Monifa Fiu (WWF Fiji) reports

WWF Fiji Country Program has initiated a Seagrass-Watch monitoring program in the primary schools at one of its community project sites located in Kabara Island in the Lau group. Under the climate change program and community-based monitoring for coral bleaching, the schools have an awareness education program which complements the community outreach program.

The islands and atolls of the Lau (Eastern) group are scattered over an area of 114,000 sq km to the south-east of Viti Levu. In fact, southern Lau is closer to Tonga than it is to Suva.

Like many other coastal Pacific Island communities, the people of Kabara Island in Fiji, are heavily dependent upon marine resources for their livelihoods. The communities in Kabara are however concerned at how much longer it now takes to catch fish or gather food. They also speak of areas in their coral reefs which are 'white' and where fish are noticeably absent.

Considering that the reefs are far from major human influences such as farming land run-off, it is assumed that these 'white' patches of reef are a result of changes in water temperature.

Kabara has now become a focal point for raising awareness within the community on the impacts of Climate Change and WWF is now assisting the communities in trying to identify ways to adapt to these changes in their marine environment.

The communities have developed an action plan which outlines activities to help build the resilience of their reefs and wider marine environment to the impacts of Climate Change. Examples include banning the use of traditional poisons (duva) to catch fish or the implementation of village rules which forbid the dumping of village wastes into the sea. Considering the nature of the monitoring and the existence of seagrass meadows at such a location, it was an opportunity to involve two of the primary schools in our monitoring program for seagrass in Kabara. The first seagrass monitoring was done in October 2004 and was carried out by the WWF Fiji marine team for a marine baseline biological assessment. For more information on this project please visit [www.wwfpacific.org.fj](http://www.wwfpacific.org.fj)



Rich seagrass meadows of Kabara being surveyed by a member of the WWF Fiji research team.



# Philippines



## Palawan

Bella Sheila L. Albasin (WWF Philippines) reports

Last year we conducted a baseline survey in Roxas (northern Palawan) and recommended 7 areas with good seagrass cover, high species diversity and noted by fishermen to be sites frequented by dugongs (2 of these sites had dugong feeding trails). Three (3) of the sites are intertidal however the others (4) are quite deep (more than 3 meters) so we have to dive (SCUBA).

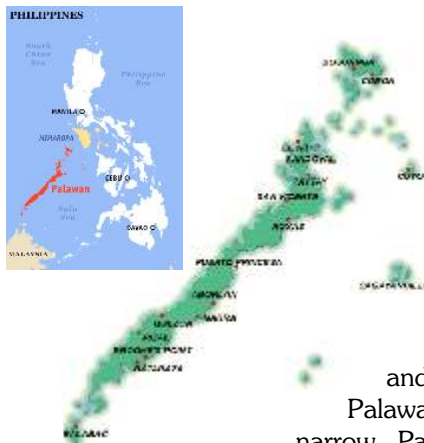


In June this year, WWF began monitoring these sites and we are currently in the process of analyzing the data with help from Hildie Nacorda, Marine Studies Institute, University of the Philippines.

In September or October, WWF will train the local community and some local government people how to monitor these sites. We are hoping that next year and the following years thereafter, the municipal government of Roxas together with these concerned community people will be able to do the monitoring since they have included monitoring of these areas in their Municipal Fisheries Code as Seagrass Protected Areas (drawn March 2005).

We presented the results of our seagrass survey to the community leaders (barangays) where these seagrass protected areas are located. They have yet to draft the ordinances delineating these areas.

As our project here in Roxas will end toward the middle of next year, I am hoping that somebody (within the local government of Roxas or among concerned people in the community) will continue monitoring these seagrass areas. It is possible that the Palawan Council for Sustainable Development (PCSD) will continue monitoring upon request by the municipal government. Our target this year is to have the barangays draw up an ordinance delineating the area itself and come to a decision on activities that will be allowed or not allowed inside the area.



Palawan is an island province of the Philippines located 600 km southwest of Manila and is flanked by the South China Sea on the west and the Sulu Sea on the east. It is the largest province of the Philippines. It has a land area of 1.5 million hectares and a coastline of 1,959 km.

Palawan consists of the long and narrow Palawan Island, plus over 1,700 other smaller islands surrounding the main island.

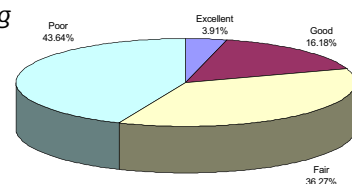
Palawan is considered to be the Philippines' "last frontier". The province boasts of many splendid beaches and has two World Heritage Sites: Tubbataha Reef National Marine Park and the Puerto Princesa Subterranean River National Park. In 1990, UNESCO declared the entire Palawan area as a Biosphere Reserve.

At least 10 species of seagrass are known from Palawan. *Enhalus acroides* is to be the most common seagrass occurring in Palawan.

Since 1997, staff from the Palawan Council for Sustainable Development have conducted coastal resource assessments to generate information on the general condition of Palawan's Coastal resources. Seagrasses were surveyed at a number of sites using a transect/quadrat technique.

They reported that nearly half of Palawan's seagrass resources or in a "poor" condition (see graph & table below). Data generated from surveys of coral reefs and seagrasses across Palawan is input to coastal resource management planning, Environmentally Critical Areas Network (ECAN) zoning and environmental monitoring.

Under ECAN zoning, identify potential core zones which may include habitat of rare and endangered marine species, fish sanctuaries (declaring certain areas as fish sanctuaries to enhance sustainable fisheries).



Site	Total No. of Survey Sites	Excellent	Good	Fair	Poor	Year
Bataraza	12	1	1	4	6	2003
Narra	12	0	1	8	3	2003
El Nido	14	0	4	3	7	2002
Agutaya	10	1	4	3	2	202
Magsaysay	10	1	2	4	3	2002
Dumaran	16	1	3	7	5	2001
Taytay	16	1	0	11	4	2001
Quezon	13	0	2	2	9	2001
Brooke's Point	6	0	3	2	1	2001
S. Espanola	6	0	2	2	2	2001
San Vicente	10	1	2	1	6	2000
Busuanga	15	0	1	5	9	1999
Culion	21	0	0	3	18	1999
Coron	2	0	1	1	0	1999
Roxas	13	1	3	7	2	1999
Aborlan	3	0	0	2	1	1997
<b>Total</b>	<b>179</b>	<b>7</b>	<b>29</b>	<b>65</b>	<b>78</b>	
<b>PERCENTAGE</b>	<b>100</b>	<b>3.91</b>	<b>16.2</b>	<b>36.31</b>	<b>43.58</b>	

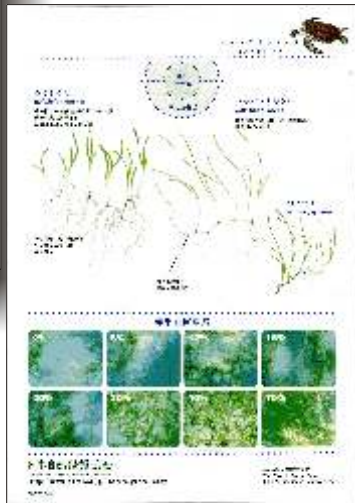
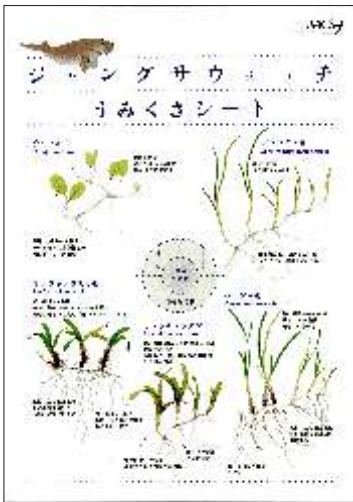


## Okinawa Jangusa Watch

By Masahito Yoshida, Nature Conservation Society of Japan

The Nature Conservation Society of Japan has published a water-proof Seagrass-Watch field sheet in preparation for the first official Jangusa (seagrass) Watch Training Course to be held in Okinawa, Japan, on August 21, 2005.

The sheet includes a Seagrass-Watch and seagrass identification guide. Both guides include beautiful drawings of the eight seagrass species which occur in Okinawa, that were contributed by Mr Taro Hosokawa, a well known designer of Kaiso Original Ltd. The seagrass identification guide provides brief knowledge on seagrass biology written by Dr Masahiro Nakaoka of Chiba University and Ms Naoko Kochi of Hokkaido University, while the Seagrass-Watch sheet mainly focus on identification and percentage cover estimation.



This field guide is the first ever seagrass educational materials available in Japanese. The training will be held at Kayo on 21 August, and is particularly tailored to divers in Okinawa.



Study area at Kayo.

## Karimunjawa, Indonesia

Stuart Campbell (WCS Indonesia Program) reports



WCS Marine are continuing the collaboration with Karimunjawa National Park (KNP) staff in monitoring seagrass habitats in the marine park. The new zoning for the management of marine resources in the KNP, agreed by all stakeholders early this year incorporates different types of coastal habitat management all within the one national park and community framework.

In the first phase, this project will focus on comparing seagrass habitat parameters between management sites and using these findings within an adaptive management framework to promote the continued improvement of seagrass habitat and function in Karimunjawa. The second phase will then focus on assessing the functional role of seagrass habitat as nursery ground for reef fishes.

Baseline surveys of seagrass coverage have been conducted prior to the implementation of new zoning regulations and will provide a comparison to evaluate the new management regulations in protecting seagrass habitat in KNP. The research and monitoring will provide information for management to answer a set of key questions such as; Is there a difference in seagrass cover between the different management zones? Do reef fish in KNP depend on seagrasses for nursery habitat? Implementation of these management approaches is likely to improve the success of conservation activities in the region.



Above: Karimunjawa National Park rangers monitor seagrasses.



Left: Stuart Campbell training park rangers and WCS staff in Seagrass-Watch monitoring techniques.

## Seagrass 3M workshop

From the 9th to 12th May 2005, a workshop "Seagrass 3M workshop: Mapping, monitoring & management of seagrass resources in the Indo-Pacific" was held at The Nature Conservancy, Southeast Asia Center for Marine Protected Areas (TNC SACMPA), Sanur, Bali.

The workshop was primarily an opportunity to train Indonesian seagrass scientists in the Global Seagrass Research Methods for SeagrassNet and Seagrass-Watch. It also provided an opportunity to review knowledge of tropical seagrass systems, the threats to those systems, and to share experiences with management and protection of seagrass systems. The workshop was also an opportunity for Indonesian scientists to discuss issues specific to Indonesia. The workshop lectures were conducted at the TNC offices and the afternoon sessions were spent on the reef flat of Sanur, Bali.



Participants attended from all over Indonesia, including from Government (Ministry of Marine Affairs and Fisheries), non-government organisations (The Nature Conservancy, Wildlife Conservation Society & BKSDA, Bali), national parks (Karimunjawa, Wakatobi & Komodo), universities (University of Indonesia, Hasanuddin University, Sam Ratulangi University, Universitas Udayana) and research institutions (Indonesian Institute of Sciences).

Participants learned the basic principal of mapping seagrasses (use of a GPS, using a map, using a GIS and the issues of scale and site location), and then practiced techniques in the field by mapping the distribution of seagrasses across Sanur beach adjacent to a boat channel that cuts through the Sanur reef.

Participants were also taught Seagrass-Watch monitoring techniques and established a site on the seagrass meadow at Sanur.



Rob Coles and Len McKenzie demonstrate Seagrass-Watch monitoring techniques to workshop participants, Sanur Beach, Bali.



Pollen released from male *Enhalus acorides* flowers floats on the surface above dense meadows at Sanur Beach, Bali

The final morning of the workshop was dedicated to seagrass and coastal management. Participants identified the threats to seagrasses and solutions to Indonesian issues. The issues identified for Indonesia are generic to the western pacific with physical destruction, reclamation, dredging, demersal fishing, sandmining, waste disposal, land based runoff, eutrophication, water clarity and hotel building all seen as having a high potential for damaging seagrasses. Specific to Indonesia was a priority given by the workshop to more effective legislation over education and planning.

One of the significant outcomes of the workshop was the establishment of the Indonesian Seagrass Association. It was recognised that there is in big need for a communication tool for those interested in seagrasses (the scientists, coastal resource managers, and so on) in order to share ideas and knowledge for the sake of seagrass resources in Indonesia which are undervalued. Therefore, a discussion group was established as an appropriate start in developing mass communication amongst seagrass researchers or those interested in protecting and managing seagrasses of Indonesia. Moderated by Ms Yayu La Nafie (Hasanuddin University, Makassar, South Sulawesi), interested persons can subscribe by emailing [ind\\_seagrass-owner@yahoo.com](mailto:ind_seagrass-owner@yahoo.com)

Right: Practicing Seagrass-Watch methods at Sanur Beach.

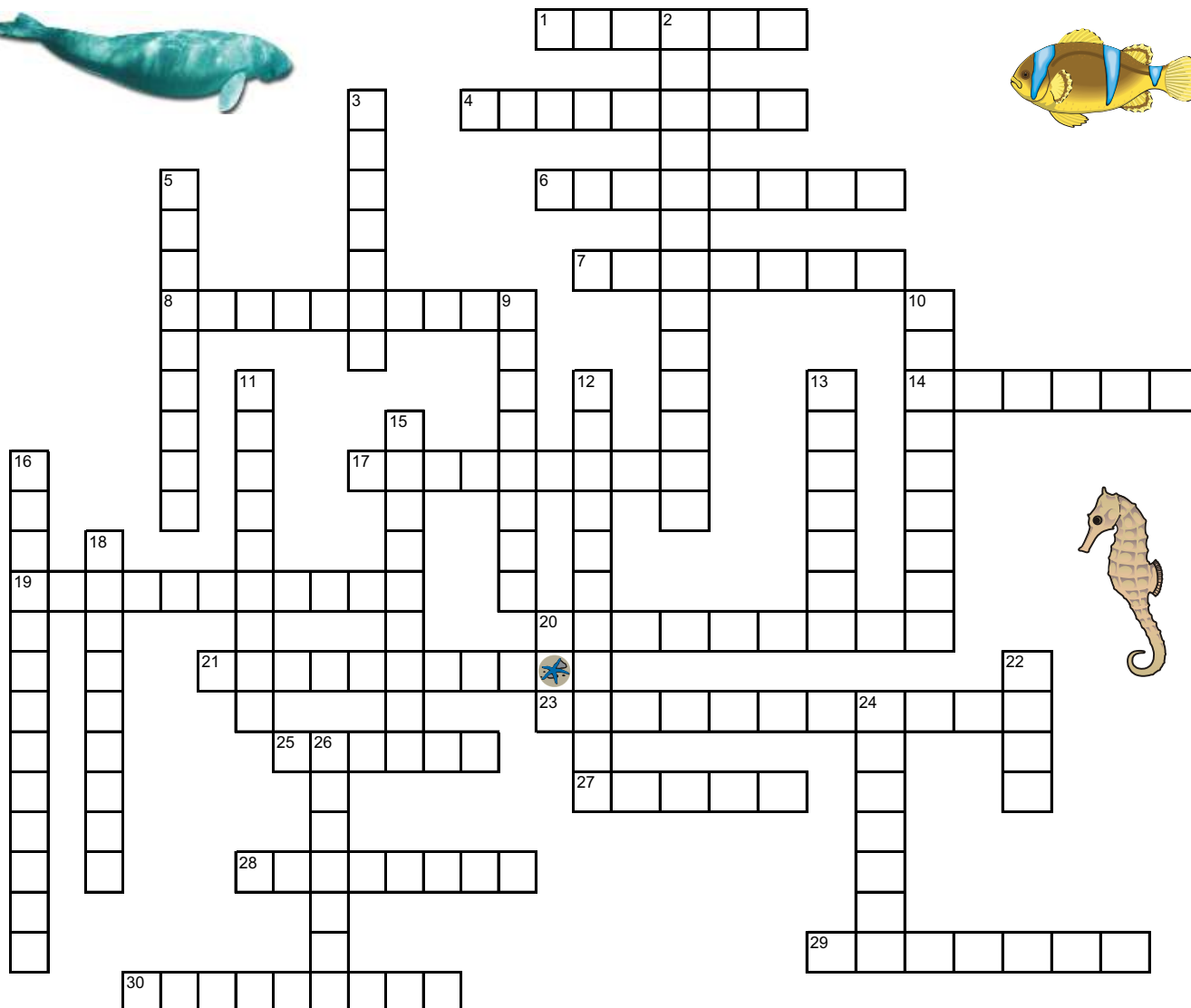
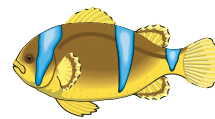
Below: Ms Yayu La Nafie shows her support of Seagrass-Watch

Bottom: Some of the workshop participants after a successful afternoon in the field.



# PUZZLES

How close did you read this issue of the newsletter?? Answer in issue 24.



## Across

1. Location revisited for the first time since April 2004
4. Youth cultural festival
6. Mobs reported munching on seagrass at St Helen's Bch
7. Bay targeted for seagrass rehabilitation experiment in Moreton Bay
8. Number of sites established in Moreton Bay
14. Location of CW1 and CW2
17. Location where no seeds have been found Hervey Bay
19. Special School from which town assists to monitor PN2.
20. Direction of strong winds which deposited sand onto TG1 earlier this year
21. Type of tags used to track dugongs near Burrum Heads
23. National park in Indonesia
25. Point in Central Qld where dugongs were caught for meat and oil at the turn of the century
27. Location of seagrass workshop field activities in Bali
28. Dried seagrass leaves are found to cure this ailment
29. Considered to be the Philippines' last frontier
30. The degree of agreement among repeated measurements

## Down

2. An education initiative of the Great Barrier Reef Marine Park Authority
3. What was Gilianne often watching rather than seagrass in the Torres Strait?
5. Event in Townsville where Seagrass-Watch was displayed
9. Isotope of which element in seagrass determines the influence of human use
10. New seagrass monitoring site at Magnetic Island
11. Location of one of Jane Mellors' PhD field study sites
12. "Grandfather" of Seagrass-Watch
13. Family who conducts monitoring at Midge Point
15. The traditional owners of Fraser Island & Hervey Bay
16. Environmental issue of high importance to Kabara Island
18. Animal recently sighted at Back Beach, Thursday Island
22. Location of training site in Okinawa in August
24. Known as seagrass in Japan
26. Seagrass genus that has increased in occurrence at Front Beach, Thursday Island





## Seagrass-Watch on the web

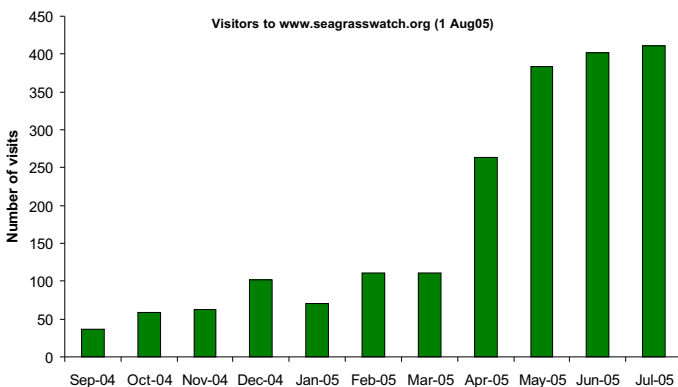
The Seagrass-Watch website is becoming more popular with web surfers. The website is providing a useful resource for people wanting information on seagrasses in this part of the globe and on seagrass

generally. More visitors are downloading the newsletters and publications, and many volunteers have downloaded the data entry files and submitted their data online.

From its humble beginnings nearly 12 months ago, the number of people visiting the site increased significantly from March 2005 after a major overhaul and the inclusion of the long-term monitoring reports.

Seagrass-Watch HQ is currently working on a new "magazine style" look for the site, which should be completed before the end of the year.

If you haven't visited the site, we recommend that you take a look. You'll find it a valuable resource and a good starting point for all your seagrass questions.



## Risk Assessment

Risk is a part of living in our society and volunteer organizations are natural risk takers. Nevertheless, everyone wants to work and volunteer in a safe environment and safety is everyone's responsibility.

Risk management is the process of managing exposure to potential injury and liability. It does this by identifying risks in order to prevent them or reduce them. Risk management:

- Minimises the effect of a loss that could not be prevented
- Gives volunteers the confidence to pursue their mission without the fear of legal action or harm
- Approaches risk in a structural and calculated manner, rather than being haphazard

The National Standards for involving Volunteers in Non-Profit Organisations are a generic set of guidelines produced by Volunteering Australia to represent best practice in the management of volunteers. Risk management is part of that best practice.

Whether you know it or not, Seagrass-Watch has a number of risk management strategies in place. They may be known as "common sense," or "safety measures" or simply "good

management." Whatever the label, these decisions and strategies put Seagrass-Watch on a solid footing and in many respects enable the program to stride confidently toward its mission.



These risk management strategies, include:

- Assess the risks before monitoring - check weather, tides, time of day, etc.
- Use your instincts - if you do not feel safe then abandon sampling.
- Let someone else know where and for how long you will be sampling
- Do not put yourself or others at risk.
- Adult supervision is required if children are involved

Effective volunteer programs can't operate without taking risks, but they can protect their mission-critical interests by applying a five-step risk management process.

1. Establish the context
2. Acknowledge and identify risks
3. Evaluate and prioritize risks
4. Implement risk management techniques
5. Monitor and update the program

The process enables volunteers to systematically identify and prioritize risks and take action to prevent or reduce the risks facing people, property, finances and goodwill. Risk management involves taking small steps, as soon as practically possible. Remember that your risk management program should reflect the resources available to your group. All volunteers should make a risk assessment before proceeding with any field activity. All participants need to read the risk assessment, agree to adhere to the stated controls and provide a signature of confirmation. We suggest you integrate this into your sign-on sheet for the day. We have provided a basic risk assessment below.

For more information on risk management, visit <http://www.volunteeringaustralia.org/index1.html>

Hazard	Risk	Control
Sun	Sunburn	<ul style="list-style-type: none"> <li>• wear hat with good cover</li> <li>• use sunscreen (preferably 40+).</li> </ul>
	Eye strain	<ul style="list-style-type: none"> <li>• sunglasses (preferably polarised lenses)</li> </ul>
	Dehydration	<ul style="list-style-type: none"> <li>• Take a drink (water)</li> </ul>
	Exposure	<ul style="list-style-type: none"> <li>• Wear proper clothing and footwear depending on the weather</li> </ul>
Beware of holes, oysters, broken glass, etc.	Cuts & twisted ankles	<ul style="list-style-type: none"> <li>• Use common sense when walking to and from a site</li> <li>• Wear proper footwear e.g., diving booties or old shoes with tough sole and good grip.</li> <li>• Have a first aid kit on site or nearby and re-acquaint yourself with the treatment of marine stings (e.g., jellyfish, stonefish)</li> </ul>
	Marine stings	<ul style="list-style-type: none"> <li>• Wear proper footwear depending e.g., diving booties or old shoes with tough sole and good grip.</li> </ul>
Be aware of dangerous marine animals.	Bites	<ul style="list-style-type: none"> <li>• Have a first aid kit on site or nearby and re-acquaint yourself with the treatment of marine stings (e.g., jellyfish, stonefish)</li> <li>• If crocodiles occur in your area, check with QPWS.</li> </ul>
	Standed/stuck	<ul style="list-style-type: none"> <li>• Communication device (ie mobile phone working in area or marine radio)</li> </ul>
Deep mud	Exhaustion	<ul style="list-style-type: none"> <li>• Do not over exert yourself - move at your own pace</li> </ul>
	Bacterial infection	<ul style="list-style-type: none"> <li>• Wash hands and feet carefully upon return</li> </ul>
	Standed/stuck	<ul style="list-style-type: none"> <li>• check weather, tides, time of day, etc.</li> <li>• Communication device (ie mobile phone working in area or marine radio)</li> </ul>





## Seagrass-Watch QAQC

Have you received a Data Error Notification recently??? It's just the program's way of letting you know how we are dealing with your data and how we can work together to improve the program.

Seagrass-Watch HQ ensures the QAQC protocols for the program are followed and that the program is producing data of high quality, ensuring volunteers are not wasting their time and resources.

Quality assurance (QA) refers to the management system by which data is collected, organised, documented and evaluated. Quality control (QC) refers to the technical means by which error is controlled by both volunteers and scientists for Seagrass-Watch.

DPI&F has systems in place to manage the way Seagrass-Watch data is collected, organised, documented, evaluated and secured. The Seagrass-Watch program collects and collates all data in a standard format. DPI&F has implemented a quality assurance management system to ensure that data collected by volunteers is organised and stored and able to be used easily.

All data (datasheets & photographs) received are entered onto a relational database on a secure server in Cairns at the Northern Fisheries Centre. Receipt of all original data hardcopies is documented and filed within the DPI&F Registered Management System (RMS), a formally organised and secure system. Seagrass-Watch HQ (DPI&F) operates as custodian of data collected from other participants and provides an evaluation and analysis of the data for reporting purposes. Access to the IT system and databases is restricted to only authorised personnel. Provision of data to a third party is only on consent of the data owner/principal.

Seagrass-Watch HQ (DPI&F) performs a quality check on long-term monitoring data submitted as part of Seagrass-Watch Quality Assurance Quality Control (QAQC). Seagrass-Watch HQ provides validation of data and attempts to correct incidental/understandable errors where possible. Validation is provided by checking observations against photographic records to ensure consistency of observers and by identification of voucher specimens submitted.

In accordance with QAQC protocols, Seagrass-Watch HQ advises observers via an official data error notification of any errors encountered/identified and provides an opportunity for correction/clarification (this may include additional training). Any data considered unsuitable is removed from the database.

The collection of data by Seagrass-Watch volunteers necessitates a high level of training to ensure that the data is of a standard that can be used by management agencies. Technical issues concerning quality control of data are important especially when the collection of data is by people

not previously educated in scientific methodologies. By using simple and easy method, Seagrass Watch ensures the issue of completeness (the comparison between the amount of valid, or useable, data originally planned to collect, versus how much was collected.). Calibration sheets are used to ensure precision (the degree of agreement among repeated measurements of the same characteristic at the same place and the same time) and consistency between observers and across sites at monitoring times. Repeated scientific training has allowed volunteers to become familiar and cognisant with scientific techniques. Training of volunteers by scientists and use of field calibration sheets also allows comparability of data between between sample locations or periods of time. Issues concerning representativeness are addressed within Seagrass-Watch before monitoring begins. This is achieved by the careful selection of localities based on their capacity to represent the composition of seagrass meadows throughout a chosen region. Replicate sites within localities are chosen to accurately describe the broader location and scientific techniques (eg power analysis) are used to ensure sufficient sampling effort (ie quadrats) is used to describe a seagrass meadow. Finally, accuracy (measures how close results are to a true or expected value) is achieved by using



voucher specimens to check species identifications, refresher scientific training and by photographing 27% of quadrats assessed.

## Do you want to get Involved?

Contact your local Seagrass-Watch representatives:



### **Cooktown:**

Christina Howley Ph. (07) 40695229

### **Great Sandy Strait:**

Gordon Cottle (The Great Sandy Strait Fauna & Flora Watch)

Ph. (07) 4129 8531

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

### **Hervey Bay:**

Trischelle Lowry (Hervey Bay Dugong and Seagrass Monitoring Program)

Ph. (07) 4124 4192

### **Mackay:**

Jon Woodworth (Mackay Whitsunday Coastcare Facilitator)

Ph: (07) 4967 0722

### **Moreton Bay:**

Paul Finn (QPWS Moreton Bay Marine Park) Ph. (07)3821 9029

### **Torres Strait:**

Jane Mellors (DPI&F Townsville) Ph: (07) 4722 2655

### **Townsville:**

We are currently looking for a coordinator in Townsville. Please contact Seagrass-Watch HQ if you would like more information.

### **Whitsundays:**

Margaret Parr (QPWS Volunteer Rangers) Airlie Beach Ph: (07) 4946 1872

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

### **International**

Len McKenzie (QDPI&F, Cairns, Australia) Ph. (+61) 7 4035 0131

or

visit [www.seagrasswatch.org](http://www.seagrasswatch.org)



Text: Len McKenzie & Rudi Yoshida  
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Any comments or suggestions  
about the Seagrass-Watch program or contributions to  
the newsletters would be greatly appreciated.

NEXT ISSUE OUT DECEMBER 2005

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