Dear Member,

There has been a great deal of activity and progress since our last newsletter and we are pleased to open this second edition with several pieces of good news. First from the general committee which is now operating with full membership and is delighted to welcome aboard Dr Jane Fewtrell of Curtin University, Dr Stuart Humphries of Sheffield University & Jason Webb of Murdoch University.

Continuing the good news, a significant hurdle for the association has now been successfully cleared with the achievement of our Deductible Gift Recipient status which effectively gives the Association the same tax benefits as a charity. We are now endorsed by the Tax Office to receive donations as income tax deductible gifts which we hope will facilitate our fundraising initiatives for both the laboratory and the Trust Fund.

The station continues as a nucleus of student activity with several new projects started (more information on these can be found on our website and in the new display cabinet which can be found outside the supermarket in Coral Bay). With increasing interest in the station much has been done to improve facilities both in the lab and living quarters. Thanks and appreciation go to our president, Dr Mike van Keulen, who continues with his efforts to furnish the lab. Over Christmas he brought up new benches and other equipment which gives the lab a much more professional appearance. The layout of the lab is now greatly improved, with good, stable work surfaces for microscope work and dealing with samples. A new digital balance has been ordered, and a deionised water supply has been installed. The desk and bookshelf have been moved into the living area, creating an office space separate from the lab areas.

This brings us to the next piece of good news which is our successful grant application to LotteryWest for a new computer and phone and ISDN Internet access for the station. For their support of the application we would like to thank Dr Martin Anda of the Environmental Technology Centre, Jenny Carey of CALM Exmouth,......

HELP! We may be good at promoting science in the Ningaloo region however fundraising is not our forte! If you think you can, or know someone who might be able to help us we would be extremely appreciative of any ideas and especially action in this area!
Mike has arranged for and been informed that the first shipment of reference books from the Murdoch Library will be sent to Coral Bay in the next month or so. The Murdoch Library has been very generous in agreeing to establish a special collection for the Research Station, to remain there as a long-term loan. Combined with high-speed Internet access to the Murdoch Library, these resources will reduce the isolation of visitors, and improve communication for research and also in the event of emergencies. The living area has also received some attention and is now much more comfortable. With membership and station usage fees several pieces of furniture including four new double bunk beds have been purchased. By retaining a couple of the old beds as “roll-out” beds the station will be able to accommodate up to 10 visitors in comfort.

Other plans for the near future include a freshwater tank, which will be useful for both cooking/drinking as well as washing down cars, boats and equipment. Speaking of cars and boats, all vehicles have had significant work on them recently; the LandCruiser had extensive work done on the brakes and clutch and is now a much safer proposition to drive! Both boats and trailers have also received some attention. The major take-home message coming out of this work is “Wash it in freshwater after use!”

NEW STUDENT PROJECTS

* Ecology of manta rays (Manta birostris) at Ningaloo Reef, Western Australia.  
  Sarah Gardner, PhD Student, UWA

* Patterns of population connectivity of two corals from isolated reef systems in northern Western Australia.  
  James Underwood, PhD student, UWA

* Morphology and Habitats of Ningaloo Reef: Impacts and Resilience.  
  Emily Twiggs, PhD Student, Edith Cowan University

* Offshore-inshore trophic links with a focus on Manta Ray feeding ecology.  
  Frazer McGregor, PhD Student, Murdoch University

* Seagrasses and macroalgae of Bateman Bay, Ningaloo Reef.  
  Helen Shortland-Jones, Honours student, Murdoch University.

The North West Research Association is a not for profit organisation with the aim of promoting research in the Ningaloo Region. The Coral Bay Research Station, the only research facility on the Ningaloo Coast, was established in 2004 and demand for the facility continues to grow. Income Tax deductible donations are always gratefully received. Our current wish list includes a weather station, GPS units, scuba tanks and a boat shed.  
More information on the Association can be found at [http://nwra.murdoch.edu.au](http://nwra.murdoch.edu.au)
MESSAGE FROM.....

Dr Mike van Keulen

A lecturer in Plant Sciences & Marine Biology at Murdoch University, he is a founding member of the Association, acting president of the general committee and vice-president of the scientific committee.

The last few months have been a very exciting time for the Coral Bay Research Station, with numerous new items of equipment, both for the lab and the accommodation, and a large increase in the number of users. More activity is on the horizon, with the commencement of the CSIRO Wealth from Oceans Collaborative Cluster focused on Ningaloo, and the long-awaited Ningaloo Research Programme funded by the state government. Both multi-million dollar research programmes will start releasing funds in the next few months, and will see a great increase in the level of scientific research being carried out at Ningaloo. As the only research facility located on the reef, the Coral Bay Research Station will play a key role as a base for several projects. The CSIRO recently sent up a team of seven researchers to conduct some preliminary fish surveys. Another expedition is planned for April led by Murdoch University, aimed at providing ground-truthing for detailed aerial surveys of the entire Ningaloo Reef using high resolution hyperspectral surveying. This data will result in habitat maps of unprecedented resolution, providing a key tool for management of the Ningaloo Marine Park. In addition to ground-truthing for the remote sensing work, significant funds have been released for the first detailed biodiversity survey of Ningaloo. This work will be conducted in stages, with some work carried out in conjunction with the ground-truthing expedition this year, a major quantitative survey of reef biota to be carried out next year, and an International Marine Biology Workshop to be held in Coral Bay in 2008. Other projects will include detailed surveys of Ningaloo Marine Park users and modeling to examine the links between biodiversity hotspots on the reef and user destinations. Our own Frazer McGregor has signed up to start a PhD with me and Luke Twomey (also from Murdoch), examining offshore-inshore trophic links with a focus on Manta Ray feeding ecology. The station continues to be a popular for research students from a wide range of institutions. Certainly exciting times ahead for the Research Station, which will be a crucial resource for these activities.

I can't sign off without a huge vote of thanks to Frazer who has been de facto manager of the Research Station since its establishment, and has been essential to the smooth running of all of the research activities there. The place would rapidly grind to a halt without Frazer's dedication and commitment. Thanks Frazer!
Dr Stuart Humphries is an advanced research fellow at the University of Sheffield, England. He was one of the first people to stay at the Research Station in Coral Bay and is one of the newest members of the committee.

Last November was my first visit to the station. John Carlin and I spent 3 weeks in Coral Bay working on my research and his PhD, along with a succession of able assistants. John’s aim was to collect tiny coral fragments from a number of sites. We managed to collect nearly 200 samples, and John is just nearing the end of his PCR work to characterise their zooxanthellae. The next step is to analyse this data to compare the zooxanthellae population to that on other reefs around the world and to determine which environmental factors might influence the zooxanthellae characteristics. My aim was to record the extent of coral polyp expansion in a number of coral species over time. I am interested in the balance between nutrition from zooxanthellae and that from feeding on zooplankton that corals exhibit. By taking sequences of digital photos over a 2 week period, I am trying to determine what influences expansion of polyps and their feeding tentacles, and how this might differ between night and day.

Two shots of the same coral colony, one in daylight, the other at night. Notice the difference in tentacle expansion, and that the tentacles are not fully withdrawn in the day.