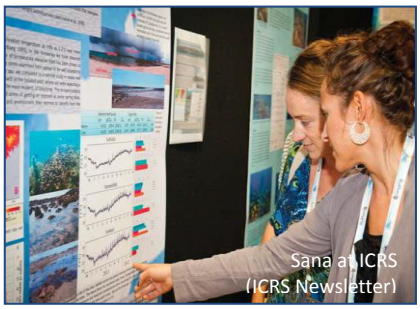
KIMBERLEY MARINE
RESEARCH STATION ● CYGNET BAY

JULY 2012

What's been happening at KMRS in July?

July 1-2: Mike Travers from WA Fisheries visits KMRS: Mr Mike Travers from the research division of the WA Department of Fisheries visited KMRS overnight during a recent trip to the region. Mike spent time scoping the KMRS facilities and visited the Ardyaloon Tropical Aquaculture Hatchery at One Arm Point to view up-close some of the species found in local waters. Thank you Mike for taking the time to visit.


Sana at ICRS
(ICRS Newsletter)

July 19: UWA researcher Sana Dandan at the International Coral Reef Symposium in Cairns: Sana is a PhD student from the University of WA and a treasured return researcher at KMRS since 2010. She recently shared the current findings from her KMRS research with 2,000 international delegates at the International Coral Reef Symposium in Cairns. This is the abstract for her work: "*Coral resilience to extreme tidal induced environmental fluctuations.* To evaluate how corals have adapted or acclimatized to large-scale 'natural' fluctuations in their environment we have examined corals from a study site located near the tip of the Dampier Peninsula in the Kimberley of NW Australia [KMRS, Cygnet Bay]. This site experiences the largest tidal range of any tropical region in the world (11.7 m), forming functionally isolated pools at low tide. The semi diurnal tidal cycle causes the environmental conditions to fluctuate; as a result corals experience high maximum temperatures of up to 35°C during daytime spring low tide, as well as periodically being subjected to high levels of irradiance. Temperature induced stress and the synergistic effect of elevated temperature and high irradiance are some of the main factors responsible for coral bleaching, a consequence of the expulsion of symbiotic algae. In marked contrast to most coral reef environments where elevated temperature as little as 1-2°C over mean summer maximum lead to a loss of symbionts, compared to what the Kimberley corals experience, this is a change of relatively few degrees over months – we have observed temperature changes of 7-8°C over a single tidal cycle. The rate of temperature elevation itself has been shown to induce additional stress, however, the corals examined here appear to be well adapted to these extreme conditions as shown by survival and growth-rates. Understanding this extraordinarily high resilience has potentially important implications for the longer-term resilience of coral reefs to the thermal stress expected in response to climate change in the coming decades."


Intertidal corals at Cygnet Bay
(A McCarthy & Peter Strain)

July 22-24: University of Wollongong archaeologists visit KMRS: Dr Kat Szabo and PhD candidate Brent Koppel visited KMRS briefly at the end of a field trip to the Admiralty Gulf region in the north Kimberley where they have been doing archaeological work on mollusc remains accumulated in coastal middens. To get a better understanding of the region's mollusc species, the team spent time gaining insight into the morphology and life history of Cygnet Bay's silver-lipped pearl oysters *Pinctada maxima*. Thank you Kat & Brent for dropping in.

July 31: 2012 WAMSI Kimberley Marine Science Seminar series kicks off: KMRS Research Officer Ali McCarthy had the pleasure of representing the Station at the first in a series of seminars hosted by the WA Marine Science Institution (WAMSI) on marine science in the Kimberley. Dr Barry Wilson shared his wealth of knowledge and experience in "Patterns of life on Kimberley shores" and Dr James Gilmour presented on behalf of the Australian Institute of Marine Science on "Two decades of research on the Kimberly's oceanic reef systems: dynamics and connectivity of coral assemblages in a changing world". The next seminars are scheduled for September and November and are open to anyone interested in attending.


The Kimberley
Image from WAMSI
www.wamsi.org.au

What's been happening in the water lately?

Last month's edition of the KMRS newsletter mentioned a turtle hatchling found on the beach at Cygnet Bay believed to be an olive ridley. It has been confirmed that the hatchling is indeed an olive ridley and that there have been multiple reports of sporadic nesting occurrences along the Kimberley coastline in the past few years. Thanks to the DEC Marine Science Program turtle team for the clarification.

Numerous sailfish have been spotted in the area this month and local men from One Arm Point managed to land this catch (pictured right) by spearing it with a turtle spear. Likewise, numerous humpback whales have been sighted around the Bay as they complete their migration along the WA coastline to and from their Kimberley calving grounds. Meanwhile, nights have been chilly at the Bay with ambient temperatures recorded as low as 8.5°C. (Photo right: Sailfish caught at One Arm Point, by Wayne Langtree)

Kimberley Marine Parks Update: The public consultation period for the final proposal of the Commonwealth Marine Reserves Network has been opened and will extend for 60 days until Monday September 10, 2012.This includes submissions regarding the proposed Kimberley Commonwealth Marine Reserve, which is planned to extend in Commonwealth waters (3–200nm offshore) from south of Beagle Bay north-east towards Kalumburu and will extend as close as 3nm off the coast of the Dampier Peninsula. More information can be found at www.environment.gov.au.

Photo of the month

Shorebirds, Jackson Island, Buccaneer Archipelago

Great-billed heron *Ardea novaehollandiae* (centre), grey and white eastern reef egrets *Ardea sacra* (right) & sooty oystercatcher (left) *Haematopus fuliginosus*

By Kyla Tappert
8 July 2012

What's ahead at KMRS?

- Pearl harvest will be coming to an end at Cygnet Bay in early August.
- KMRS will be presenting at the 'Celebrate the Bay' event hosted by the Roebuck Bay Working Group on Sunday, 12 August at Town Beach, Broome. See you there!

For the latest news and happenings at KMRS and along the Kimberley coast, please follow our online news feed

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