



University of the West Indies



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From the Editor:

This issue of the CMS Newsletter features the highlights of the AMLC 36th Scientific Meeting held in Ocho Rios, Jamaica and hosted by the CMS/DBML. Previous to this the UWI has hosted the third meeting in 1960 on the Mona Campus, the eighth meeting in 1969 also at the Mona Campus and the 15th meeting in 1980 in Runaway Bay. This 36th Scientific Meeting represented a reunion for some persons and a re-visit to old research sites for others.

I extend my gratitude to all those who assisted in making this issue of the CMS Newsletter possible.

Marcia M. Creary Ford

Discovery Bay Marine Laboratory hosts the Association of Marine Laboratories of the Caribbean (AMLC) 36th Scientific Meeting under the theme

Managing for Sustainability and Resilience: Challenges for CZM in the Caribbean

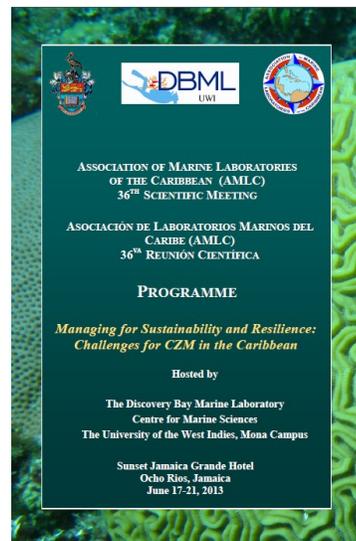


Prof Ishenkumba Kahwa, Dean of the Faculty of Science and Technology at the UWI, Mona Campus welcomed the participants to the Association of Marine Laboratories 36th Scientific Meeting on behalf of Jamaica and the Department of Life Sciences/ Centre for Marine Sciences/ Discovery Bay Marine Laboratory (DLS/CMS/DBML) team. He specially welcomed old colleagues, including Dr George Warner, past Director of the CMS. During his opening remarks he highlighted the participation from the CARICOM and non-CARICOM countries, South,

Central and North America and from countries outside the Caribbean. Prof Kahwa recognised the presence of the Plenary Speakers and expressed his appreciation to them for having agreed to participate in this Scientific Meeting. He also gave credit to the AMLC for providing a forum for students to present their research in order to receive constructive criticism and advice.

Mr Peter Gayle, AMLC President and Principal Scientific Officer at the DBML, gave his welcome on behalf of the DLS/CMS/DBML. He explained that his request to host this AMLC 36th Scientific Meeting was made many years ago because he feared that the AMLC was losing its “Caribbean-ness”. He felt that a lot of data has been generated from research carried out in the region and that these data should be made available and used by managers. So, in addition to providing a friendly forum for stu-

dents to present their work, this meeting also aimed to provide an opportunity to interact with the end-users such as government agencies, the private sector and others in the environmental field. This would be facilitated in the form of a Panel Discussion to be held on the last day of the meeting. He indicated also that the Plenary Speakers were specially invited to stimulate more of a link between scientists and the “real world” of data users.

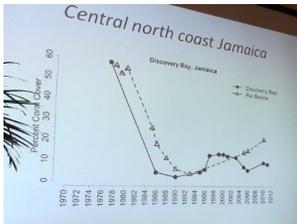


Plenary Speakers

Prof Jeremy Jackson

Senior Scientist Emeritus, Smithsonian Institute & Professor, Scripps Institute of Oceanography

Is there hope for Caribbean Reefs?



“...more data on Caribbean reefs than for any other reefs on the planet...”

Prof Jackson informed the gathering that his first visit to Discovery Bay was in 1968 where he received lectures from Thomas Goreau. On this return visit to Jamaica, he presented the results of the current GCRMN initiative to describe how Caribbean reefs have changed over the past 40-50 years. He indicated that there were more data on Caribbean reefs than for any other reefs on the planet. This was reflected in the data that were obtained from 35,000 quantitative surveys conducted at 90 locations in 34 countries. He indicated that there were 16 locations that had long range data sets, from 1965 to

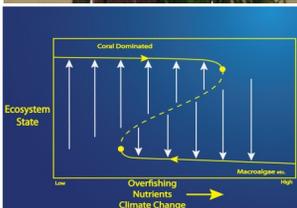
2012 and these formed the basis for the conclusions presented.

The data showed great variability with respect to locations but general region-wide trend showed a decline in coral cover from around 40% to 18% and an increase of macroalgae from 8% to 25%. The majority of reefs showed an initial rapid decline from the first to the second period and then stabilized and even showed improvement in some places. He pointed out that the worst coral reefs were to be found in Jamaica and Florida.

Prof Jackson posed the question “What have we learnt so far and

why should we care?” He felt that these studies point to overfishing as a “big deal” because evidence showed that those places that had banned the fishing of parrotfish had the largest coral cover. He also pointed out that coral monitoring was in a “shambles” because data are not analyzed and made available.

Prof Jackson indicated that the result of this Caribbean region-wide assessment will be published and that he had copies of the draft Executive Summary for distribution and comments.



“...the Caribbean was inherently more vulnerable to phase shifts...”

Prof Terry Hughes

Director, Australian Research Council's Centre of Excellence for Coral Reef Studies.

Managing the resilience of coral reefs to reverse phase shifts.

Prof Hughes indicated that his talk was based largely on his reactions to the presentations and his dive at Rio Bueno the previous day. He indicated that he was pleased to attend his first meeting of the AMLC, which had given him an opportunity to return to this side of the world. He told the audience that throughout his career he has had an interest in the concept of “phase shift” with observed transitions from 80% coral cover to corals almost disappearing on many reefs. This is the phase shift that most persons are familiar with but what killed the corals? He proposed that coral decline was more to do with recruitment failure rather than coral mortality. He indicated that he had recorded the *Diadema* die-off in Jamaica in 1983 which caused the reefs to turn green

and coral recruitment to come to a halt. He felt that the Caribbean was inherently more vulnerable to phase shifts due to the low species diversity, resulting in limited functional redundancy. *Diadema* was the dominant herbivore, and when this was lost there was nothing to replace it.

He pointed out that when persons look at the decline, they do not consider the drivers or social causes. These drivers are mainly global population change and consumption which have led to run-off from land, overfishing, invasive species and climate change. He further stated that these drivers are universally escalating. In the case of Jamaica, coral cover was high in the 1970's but it was close to the tipping point and was nudged over the

edge by Hurricane Allen and the *Diadema* die-off.

Prof Hughes indicated that cage experiments demonstrated that parrotfish were instrumental in removing algae, which facilitated the growth of coral recruits previously suppressed by algae.

In present day Jamaica he has observed the gradual transition back to a coral dominated state with the presence of *Diadema* in the shallow waters, however, the species composition was different. In summary he identified overfishing, run-off and climate change as the drivers primarily responsible for coral decline and that it was possible to reverse the phase shift. He indicated that we were not doomed if we acted quickly.

Panel Discussion

The Challenge of translating scientific knowledge into effective management practices.



Mrs Alessandra Vanzella-Khouri, Programme Officer (SPAW), UNEP—Chairperson.

The panel discussion was included in the AMLC 36th Scientific Meeting to provide an opportunity for policy makers and managers to provide their perspectives on translating scientific knowledge into effective management practices.



Mr Anthony McKenzie: Director, Environmental Management and Conservation, National Environment and Planning Agency, Jamaica.

Mr. McKenzie indicated that NEPA has developed a strategic research framework to provide data and information to inform the government policy. This strategy includes an MOU with the University of the West Indies to fulfill their research agenda.



Dr Leonard Nurse: Senior Lecturer, Centre for Resources Management and Environmental Studies, UWI Cave Hill Campus, Barbados.

Dr Nurse felt that we should not wait until we have perfect knowledge but should utilize expert judgment, traditional knowledge and resources-users to build scenarios to asset in the management process.



Prof Brian Lapointe: Research Professor, Harbor Branch Oceanographic Institute, Florida Atlantic University, U.S.A.

Prof Lapointe provided two examples of using science to inform management decisions in Florida. The reversal of algal blooms caused by nutrient loading in Tampa Bay represented a case where science and manage-

ment worked. However, in the Florida Cay National Marine Sanctuary nitrogen levels have exceeded the critical threshold and the area has been declared a dead zone because data on nitrogen loading from sewage was not acknowledged.



Dr Judith Lang: Scientific Coordinator of AGRRRA and Chief curator of “Our Reefs—The Caribbean Connection” Traveling Exhibit, USA.

Dr Lang felt that scientists were not good at translating science into the language that others could easily understand and believed that letting others tell the story for us would have a greater impact. She also suggested that we make more use of text messages.



Dr Peter Edwards: Economist and Social Science Coordinator, Coral Reef Conservation Program, NOAA, USA.

Dr Edwards felt that the interdisciplinary approach was required to answer the question “What’s in it for me?”. He proposed that there should be a marriage between national development goals and environmental management and this could be achieved by using a ecosystem services framework where humans are recognized as the end users.



Prof James Crabbe: Dean, Faculty of Creative Arts, Technologies and Science, University of Bedfordshire, UK.

Prof Crabbe rounded off the discussion by looking at examples from China where monitoring development was important in providing information for environmental management. He indicated that change was possible but that culture was the central issue because “knowing is not doing”. He therefore felt that the influence of scientists on culture was vital.



AMLC Student Awards



Recipients of Students’ Awards pose with Dr Peachey and Prof Webber. L-R: Ana Herrera, Rita Peachey, Kayelyn Simmons, Prof Webber, Nicole D’Antonio, and Abigail Brownell.

Poster Awards

- 1st Place Luis Ascencio-Aguirre, CINVESTAV, Mexico
- 2nd Place Kayelyn Simmons, NOVA Southeast University

Oral Presentation Award

- 1st Place Abigail Brownell, Florida International University
- 2nd Place Ana Herrera, Central University of Venezuela
- 3rd Place Nicole D’Antonio, NOVA Southeast University

Grant in Aid For Research in the Caribbean

- Jason Westridge, University of Georgia
- Fadila Ali, University of Southampton

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The University of the West Indies (Mona) has a long history of research and graduate training in the marine sciences. The Centre for Marine Sciences conducts and facilitates research in the marine environment of Jamaica and the wider Caribbean, exploring the presence and status of coastal and marine species and resources while providing sound environmental advice to Governments and Non-Governmental Organizations. In an attempt to get island wide coverage of marine and coastal issues, the Centre conducts research at new locations while continuing to monitor known sites using a balance of pure and applied research.

CMS/DBML Conference Team

Prof Dale Webber—Director CMS
Peter Gayle—Conference Chairperson
Pamela Housen—Secretariat/Registration
Simone Black—Secretariat/Registration
Patrice Francis—Secretariat/Registration
Marcia Creary Ford—Programme
Claudia Lewis—Graphics/Programme
Hugh Small—Videographer
Camilo Trench—Videographer
Kimani Kitson-Walters—Videographer
Peter Ainsworth—Photographer
Deanna-Lee Douglas—IT
Denise Henry—Field Trip
Daniel Scarlett—Field Trip
Oneil Holder—Field Trip
Dwayne Edwards—Field Trip



Overview of the AMLC 36th Scientific Meeting

A total of 123 participants attended representing 19 countries within the Wider Caribbean Region as well as the UK and North America. There were 58 oral presentations and 40 posters on display. Fifty-one students attended and participated in the both the oral and poster presentations. The field trips included rafting on the Martha Brae, tubing on the Rio Bueno and diving at the well researched Rio Bueno and Dairy Bull dive sites near the DBML. The participants were treated to a Jamaican lunch in the afternoon at the DBML which was followed by tours of the facility.

Presentations by UWI Staff and Students

Facilitated in part by Mona Campus Research and Publication Grant

Oral Presentations

- Karl Aiken:** The spearfishing sub-sector in Jamaica: a large and growing threat. Co-authored with Zahra Ennis.
- Peter Ainsworth:** The determination of the breeding success of the masked booby, *Sula dactylatra dactylatra* in the Middle Cay, Pedro Bank, Jamaica. Co-authored with Dale Webber.
- Rachel Allen:** The fishers of the Pedro Bank, Jamaica: a livelihood analysis. Co-authored with Dale Webber.
- Dayne Buddo:** The use of biology, oceanography and geographic information systems to manage the release of ballast water in Kingston Harbour, Jamaica. Co-authored with Ava Maxam
- Denise Chin:** Spatial variation of the coral reefs in Foul and Folly Bays, St Thomas, Jamaica. Co-authored with Mona Webber & Dale Webber.
- Marcia Creary Ford:** Results of long term coral reef monitoring at three locations in Jamaica. Co-authored with Loureene Jones Smith & Sean Green.
- Orville Grey:** Application of the soil and water assessment tool (SWAT MODEL) on a small tropical island state (Great River Watershed, Jamaica) as a tool in integrated watershed and coastal zone management. Co-authored with Dale Webber.
- Achsah Mitchell:** Sampling and analysis of ballast water in the Jamaican scenario. Co-authored with Mona Webber, Dayne Buddo & Dale Webber.
- Andrew Ross:** Genet and reef position effects in out-planting of nursery-grown *Acropora cervicornis*.
- Hugh Small:** The planktonic communities of the Jamaica south eastern coastal shelf: a comparison of harbour, coastal shelf and offshore oceanic bank areas. Co-authored with Kristoffer Lue, Dale Webber & Mona Webber.

Poster Presentations

- Patrice Francis:** Rapid reassessment of the zooplankton communities for the resource management of Kingston Harbour, Jamaica. Co-authored with Stacey Maxam & Mona Webber.
- Winklet Gallimore:** Short term mariculture studies on the Jamaican sponge *Aplysinat fistularis*.
- Peter Gayle:** The role of colony size in the resistance and tolerance of Scleractinian corals to temperature induced bleaching on Jamaica's north shore reefs. Co-authored with Bernadette Charpentier.
- Nasheika Guyah:** Are our marine protected areas protecting our juvenile stocks? A three-month survey of Ichthoplankton in Jamaican waters. Co-authored with Mona Webber, Gale Persad & Patrice Francis.
- Camilo Trench:** Rackham's Cay cut face coral succession study. Co-authored with Hugh Small, Lydia Morrison, Dale Webber & Mona Webber.
- Dale Webber:** A survey of phytoplankton and water quality of Kingston Harbour and the north east Hellshire coastline, Jamaica. Co-authored with Helen Liu, Sheree Broomfield, Anya Duncan, Leon Grant & Mona Webber.

Upcoming Events

- **The 66th Gulf and Caribbean Fisheries Institute.** November 4-8, 2013 in Corpus Christi, Texas
- **International Conference on Bio-Diversity.** December 16-17, 2013 in Colombo, Sri Lanka