



*A bi-monthly electronic bulletin about interdisciplinary research, teaching and outreach at the
Centre for Resource Management and Environmental Studies (CERMES)
Editors: Maria Pena and Dr. Patrick McConney*

IWRM knowledge centres workshop

By Adrian Cashman

Sixteen lecturers and researchers working in the field of water management from universities across the globe gathered at the invitation of the Global Water Partnership (GWP), including Adrian Cashman from CERMES for the Integrated Water Resources Management (IWRM) Knowledge Centres Workshop, 25 August, Stockholm, Sweden. The purpose of the workshop was to explore how the IWRM ToolBox might be used in the academic environment of universities to support the teaching of water resources management, given that GWP has built up an extensive library of materials and case studies around every aspect of water resources management.

As a first step, the workshop took stock of how IWRM was being presented in universities and at what level (graduate or post-graduate), as well as what aspects of IWRM were or were not being addressed. Dr Cashman was invited to give a presentation on how water resource management was being taught at CERMES. He used the opportunity to highlight what he thought were some of the innovations that CERMES had introduced into as well as some of the potential developments and problems faced by the Caribbean Region in the teaching of post graduate courses - accessibility for full-time professionals and affordability. His presentation was complemented by others from West Africa, South East Asia, China and Europe. What emerged was that there was a very wide variety of approaches to the teaching

Inside this issue

IWRM Knowledge Centres Workshop	1
The Barbados reefs survey project 2012	1
Too big to ignore	2
Getting it write	2
IWCS 2012	3
Caribbean Water and Wastewater Conference 2012	3
Fisheries, aquaculture, climate and disasters	4

of water resource management that had been adopted across the globe.

There was much debate over how IWRM should be taught and particularly whether teaching IWRM should be seen as part of an academic or professional development programme. There was consensus however on the need for more short postgraduate courses in IWRM and for them to be promoted alongside existing university programmes. The overall feeling was that much more could be done in this regard by universities in developing, organising and running such programmes so as to reach a larger audience.

The Barbados reefs survey project 2012

By Renata Goodridge

The Government of Barbados has contracted out this project to the University of the West Indies since its inception 20-25 years ago with Professor Wayne Hunte (Office of Research) as lead scientist.

Since 1987, every five years, 43 reefs along the south and west coasts of Barbados are invaded

by a group of scientific divers, returning to an exact site on each reef in order to survey that part of the reef.



The divers collect data on fish abundance and diversity, sponge and macroalgae abundance and diversity, along with numbers of sea urchins. Hard and soft corals are taken to another level,

where disease, bleaching and new death are also recorded. At each site ten fish and ten benthic transects are completed. This year from June to August, we stepped up the protocol a bit more and added more fish transects in order to better compare our newly collected data to other datasets. In all, 21 fringing reefs, 16 patch reefs and 10 bank reefs (adding 4 new bank reefs to the survey) were surveyed.

Renata Goodridge, Field Coordinator for the project and lead diver for the surveys, led the reef survey for the fourth time accompanied by four new recruits – Myles Phillips (CERMES Research Assistant); Justin Barbati (Undergraduate, Dalhousie University); Amy Cox (United World College of the Atlantic Graduate) and GeorgieTrew (Duke of Edinburgh Award Scheme). Professors Hazel Oxenford and Wayne Hunte were scientific advisors to the 2012 survey.



The reef survey team

L to R: Justin Barbati, Georgie Trew, Amy Cox, Myles Phillips and Renata Goodridge

Too big to ignore

By Patrick McConney

Too Big to Ignore (TBTI) is a global partnership for small-scale fisheries research that arose out of discussions at the First World Small-Scale Fisheries Congress held 18-22 October 2010 in Bangkok, Thailand.



CERMES is a collaborator in TBTI which held its Inaugural Meeting from 4-6 September 2012 in St. John's, Newfoundland. Patrick McConney, leader of TBTI Working Group 4 on "Enhancing the stewardship," attended the meeting at which the Project Steering Committee began to map out its programme of work for the years ahead.



Working on the way forward

TBTI received \$2.5 million for 6 years from the Social Sciences and Humanities Research Council of Canada (SSHRC) with matching contributions from partner organisations and individual members, making the total value of the project CAD\$5 million. The approved framework of the project consists of 62 scientists and 15 partner organizations (representing 27 countries from five regions of the globe). The Latin America and the Caribbean region will hold a meeting at the upcoming 65th Gulf and Caribbean Fisheries Institute in Santa Marta. Expect to hear more about TBTI in the future.

Getting it write

By Patrick McConney

The writeshop on adaptive capacity for marine protected area governance in the eastern Caribbean took place in St George's, Grenada from 18-19 September 2012 as the final event of the CERMES MPA Governance Project that included Grenada, Saint Lucia and St Vincent and the Grenadines. It allowed most of the people who had participated in the project over the preceding year to get together to share final thoughts on the key lessons learned, the capacity that was developed and the way forward in building adaptive capacity for resilience in the governance of MPAs in the region.



Writeshop participants getting down to business

Look out for the output as a CERMES Technical Report available to be downloaded from our web site in a few weeks. The NOS International Program Office provided the grant for this 12-month project, but this was more than matched by the in-kind contributions of the five participating MPAs in terms of the energy, enthusiasm and effort that they put into making the project a success.

IWCS 2012

By Robin Mahon

Adrian Cashman and Robin Mahon attended the GEF International Waters Science Conference 2012 (IWSC2012) 24-26 September 2012, Bangkok, Thailand. Adrian moderated a session on 'The science policy interface', and

Robin presented a poster co-authored by Alexcia Cooke, Lucia Fanning and Patrick McConney. The poster, 'Research for governance reforms in International Waters systems,' won best poster award. The poster shows how the Large Marine Ecosystem (LME) Governance Framework can be used to frame a diversity of research and intervention initiatives for an International Waters (IW) system. Although the Framework was developed for LMEs it is applicable to other types of IW (transboundary) systems such as lakes, aquifers and rivers. The Framework is being used as the basis of the governance assessment to be done by the GEF in their Transboundary Waters Assessment Project (TWAP) which should begin in January 2013.



Professor Robin Mahon showing off the 'spoils' for Best Poster

Caribbean Water and Wastewater Conference 2012

By Adrian Cashman

The CERMES Water Resources stream was well represented at the 21st annual Caribbean Water and Wastewater Association (CWWA) Conference and Exhibition held in the Bahamas from 1-5 October, 2012.

CERMES PhD student, Jenna Blackwood, and past student Onika Edwards both submitted abstracts and full length papers to the conference. Jenna presented her paper titled 'Household-centred Approaches to Storm Water Management in Caribbean Islands: Preliminary findings of Stormwater Governance

in Barbados' in a forum entitled Network Risks and Storm Water Solutions; while Onika presented her paper titled 'The Potential Impact of Climate Change on Stream Flow in Trinidad' in a forum on Water Demand/ Disaster Management & Climate Change Strategies.



CERMES students at the opening ceremony. L to R: Sharda Kissoon, Onika Edwards, Jenna Blackwood, Ann-Marie Eversley, Tara Mackey, Sophia Roberts and Kelly-Ann Knight

Five CERMES students also presented summaries of their research proposals and preliminary findings in a special student forum featuring CERMES and The College of the Bahamas:

- A. Eversley: *Utilising GIS to determine spatial distribution of the vulnerability of aquifers of Barbados to nitrates, faecal coliform and faecal streptococci*
- S. Roberts: *An analysis of the relationship between meteorological variables and the incidence of dengue in Barbados*
- S. Kissoon: *Knowledge, Attitudes and Practice (KAP) study of climate change impacts on freshwater as it relates to farmers in Barbados*
- K. Knight: *A water consumption audit of water use at Her Majesty's Prison Dodds*
- T. Mackey: *Water demand forecasting for the island of Grand Bahamas*

The CERMES students were commended by the audience for the practical nature of their research which was seen to address national needs and pertinent water resource issues. In addition, some audience members stated that the research should be made available to decision-makers to ensure that their decisions include current and scientific information. A suggestion was also made for the companies in attendance to assist the students in taking their

studies further as well as to sponsor future research in the academic institutions.

Fisheries, aquaculture, climate and disasters

By Patrick McConney

CERMES has been contracted to assist FAO and CRFM to address *Climate change adaptation and disaster risk management in fisheries and aquaculture in the CARICOM region*. The other major regional partner agencies in this are CCCCC and CDEMA. The long term aim is "to strengthen regional and national cooperation and develop capacity in addressing climate change impacts and disasters in the fisheries and aquaculture sector." The outputs to get this going are an assessment study, a strategic action plan and a programme proposal.

Patrick McConney, John Charlery and Maria Pena are working on these outputs in partnership with Terrence Phillips of CRFM Secretariat. Visits to four of the seventeen CRFM members are included in order to get firsthand information on their challenges, successes and plans for the future. Several very enlightening meetings have been held in Grenada, Guyana and Jamaica, with Belize next on the list. Aply organised by in-country contacts such as Zaidy Khan, Denzil Roberts, Ta'Chala Beecher and Vivian Belisle-Ramnarace respectively, the multi-stakeholder meetings address risks, vulnerabilities, capacities and priorities for action from the national to local level. The sessions have covered policy, technical, scientific, civil society organisation and citizen perspectives with rich interaction.

Some clear messages, and many more uncertainties and issues, have emerged. These will no doubt get attention at the regional workshop on this initiative to be held 10-12 December 2012 in Jamaica. For more information on this initiative visit the web page on the CRFM Secretariat web site: <http://www.caricom-fisheries.com/ClimateChangeAdaptationandDRM/tabid/225/Default.aspx>