University of the West Indies

CENTRE FOR MARINE SCIENCES

CMS NEWSLETTER

Volume 20 February 2013

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From the Editor:

The *CMS Newsletter* is back with a new format which I hope is more concise and easier to read. The *CMS Newsletter* provides a summary of the research and other activities taking place in the coastal and marine environment in Jamaica.

I am grateful to those who took time to contribute content to the *CMS Newsletter* and I welcome feedback as well as suggestions for improvement.

Marcia M. Creary Ford

Funding Environmental Research at the UWI: an investment in the Future

Lecture by
Professor Dale Webber on
February 7, 2013
at UWI Research Day

Prof Webber speaks on funding environmental research at the UWI

The 2013 American Friends of Jamaica, Inc. and the Cobb Family Lecture in association with the UWI was presented on day one of Research Day by Professor Dale Webber, The James Moss-Solomon Snr. Professor of Environmental Management, and Director of the Centre for Marine Sciences. The title was *Funding Environmental Research at the UWI: An investment in the future.*

Professor Webber highlighted the role of environmental research in the UWI 2012 to 2017 strategic plan "To advance education and create knowledge through excellence in teaching**, research**, innovation, public service, intellectual leadership and outreach in order to support the inclusive (social, economic, political, cultural, **environmental**) development of the Caribbean region and beyond". He defined research as gathering of data, information and facts to advance knowledge and application of that knowledge and indicated that the UWI was active in environmental research in 19 of the 20 leading global environmental issues.

Notwithstanding the contributions of the many international and national agencies which have made environmental research at the UWI possible, there are still three main limitations to sustainable successful environmental research. These are all funding related and are grouped as, infrastructure, equipment and facilities requirements, human resource and capacity development needs and inadequate mechanisms to facilitate the transfer of research benefits to private and government sectors, which could influence national and regional policies, programmes and plans.

> "Professor Webber provided evidence of continued UWI support for research despite reducing government contributions and fluctuating external grant opportunities over the past five years."

Professor Webber provided evidence of continued UWI support for research despite reducing government contributions and fluctuating external grant opportunities over the past five years. He outlined a number of agencies which have provided grants for environmental research since 1990 and focussed on the Grace Kennedy Foundation ($100 M), the Environmental Foundation ($157 M) and the Forest Conservation Fund ($80 M) as local entities with commendable records and impact.

He used a number of examples to demonstrate how the investment in research resulted in benefits in infrastructure, human resource development and opened avenues to have the research reach the private sector and Government organisations. The examples used included the EFJ funded plastic recycling project, the UNEP/UNDP Kingston Harbour research project, the EFJ and FCF funded Port

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Lionfish featured at the Rainforest Seafood Festival

Top: Visitors inside the *SS Scotia Submarine* observe the lionfish.

Bottom: Dr Buddo participates in the demonstration of the handling and preparation of lionfish

The "*Let's eat it to beat it*" campaign was launched a year ago, with support from the Scotiabank Foundation. On February 13, further support was given to this campaign with the involvement of the project in the Rainforest Seafood Festival. The Scotiabank Foundation sponsored the "*SS Scotia Submarine Tour*", a display designed to look like a submarine with portholes. Visitors were able to view specimens of live lionfish as well other marine creatures. Visitors were then treated to demonstrations of lionfish handling and preparation.

Since the launch of the campaign more persons have been convinced to consume the lionfish, and lionfish is now being served in restaurants and hotels. In addition, the campaign has highlighted the benefits of the removal of the lionfish to marine life. The success of the campaign is evidenced in the reduction in the number of lionfish being caught at key locations around the island.

The **National Lionfish Project** is part of a larger regional project -- Mitigating the Threat of Invasive Alien Species in the Insular Caribbean (MTIASIC) -- financed by the Global Environment Facility (GEF) and the United Nations Environment Programme (UNEP). It seeks to strengthen partnerships among government and non-governmental agencies in Jamaica, as well as to promote regional cooperation. Locally, the project -- which is to end in July -- is led by the National Environment and Planning Agency and the UWI-DBML.

Project Scientists: D. Buddo, D. Chin

Restoration of Critical Coastal Forest Project

Seedlings used in replanting exercise.

Mangrove forests provide ecological and economic benefits, however, various factors have damaged coastal forests island-wide. Disturbed forests do not naturally regenerate primarily as a result of extensive alterations to the hydrology of the area. **The Critical Coastal Forest Restoration Project** aims to restore a number of mangrove forests and to develop scientific protocols to guide future restoration projects. This project, which is funded by the Forest Conservation Fund (FCF) and UWI is expected to run until 2016.

The sites selected for restoration represent wetlands that have experienced varying impacts related predominantly to road construction, soil embankment to facilitate construction as well as damage associated with sedimentation, solid waste disposal, hurricanes, storms and modification for aquaculture.

Restoration activities are likely to include restoring historical hydrology, modification of existing sediment regime, construction of solid waste barriers and transplant of nursery grown saplings. The principles and technology developed from this project will be transferred through a series of training seminars, public education programmes and the production of a field guide.

Project Scientists: M. Webber, C. Trench.

Seagrass Restoration Project

Stabilized seagrass bed and meristems.

Seagrass beds serve several important functions such as being a major source of primary productivity, they stabilize soft substrate bottoms and provide a significant habitat area for adult and juvenile species. Seagrass also regulate the quality of coastal waters and provide shoreline protection.

The **Seagrass Restoration Project**, funded by Pihl to the tune of $13mil aims to restore selected seagrass beds and to develop a seagrass nursery. The sites selected for restoration are areas that have been damaged as evidenced by the presence of blowouts or eroded edges. These selected area have soft sand at a suitable depth and distance from suitable donor material. They are also located close to wetlands or shallow reefs that will offer protection.

The methods being utilized include the stabilization of eroded edges as well as creating a nursery of seagrass meristems which may be utilized in future replanting efforts.

In the future this project aims to create seagrass seed beds which can be used to restore damaged or degraded areas of seagrass habitat.

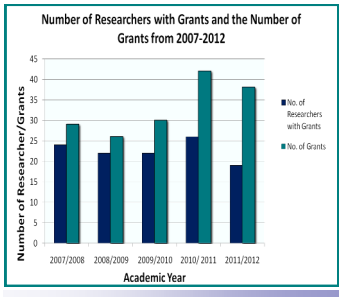
Project Scientist: D. Henry

Funding for Environmental Research—contd. from Page 1

Royal Biodiversity Centre and wetland nursery project, and the NEPA, Pihl, Noranda and Tourism Enhancement Fund projects at the Discovery Bay Marine Laboratory.

Professor Webber ended by challenging the UWI to recommit and explore collaborative Faculty-led research with diverse groups researching on focussed selected topics, engendering shared grantsmanship and increased graduate student research through mentorship. He also challenged the funding community to; explore new opportunities with existing partners (eg. Blue Carbon), find through new partners specific interests and focus driven by individual sectors or Government departments and to think regional & global in finding alliances (eg. Wider Caribbean and regional ocean connectivity). Finally the Government was urged to explore new debt reduction agreements, especially in light of the EFJ/FCF consolidation. Tremendous environmental research at the UWI has resulted in significant gains in applicable knowledge, facility and capacity development especially amongst the young. However much still remains, as is evidenced by Jamaica's archipelagic status which affords us access to marine resources 24times larger than the Jamaican land mass, ready for relevant environmental research.

"Tremendous environmental research at the UWI has resulted in significant gains in applicable knowledge, facility and capacity development "



Research grants between 2007-2012

New HYTECH Hyperbaric Chamber at DBML

The Hyperbaric Treatment Facility at the Discovery Bay Marine Laboratory (DBML), UWI is the only such facility operating in the island. The chamber is used in the treatment of decompression illness (popularly know as the "bends"). Over the past 37 years, more than 400 cases were treated at DBML; of this total, 60% were commercial fishers. In April 2012, a new **IHC Hytech** chamber was purchased to replace the 37-year-old Perry lock chamber. This purchase was made possibly through the Office of the Principal of the UWI Mona Campus and an $11.8M grant to the CMS from the Tourism Enhancement Fund (TEF). The new chamber is fitted with digital displays, built in cameras, rectangular doors for easy access by stretchers and wheelchairs, as well as seating for up to 8 divers to be treated simultaneously or 2 prostrate cases. Since its July 2012 installation and commission, 7 patients have been treated.

Prepared by Patrice Francis

New HYTECH Chamber installed.

Launch of Regional Digital Repository Database

The **Digital Repository Database System**, developed by ICENS and funded by OAS was launched on February 26-27at a workshop held at the UWI Regional Centre. The open access system, developed for the CARICOM region, is designed to store content data indexed by metadata, in support of advancing the region's scientific understanding of changes in ongoing environmental, climatic and natural resource issues as a key to socio-economic advancement. This sharing of information should lead to more informed decision making. This system is being implemented in the core group of Jamaica, Trinidad and Barbados with other CARICOM countries preparing to participate in this venture. For Jamaica, **EShare** is hosted by ICENS, and several departments of the UWI as well as government agencies have already begun to utilize this repository. The Caribbean Coastal Data Centre (CCDC), with assistance from ICENS will be seeking to upload its non-confidential data and metadata on the coastal and marine environment to the EShare Repository within the coming months. Dr Joan Neil (OAS) chaired the panel which consisted of Dr R. Annells (ICENS), S. Ramnaran (NIHERST, Trinidad), M. White (SRC), J. Preston (ICENS) and Prof R. Young (UWI).

Panelists and workshop participants.

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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 islandwide 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.

Research Day 2013

The UWI held its annual Research Days (Feb 7 & 8) to showcase research under the theme "**Pathways and Opportunities for Regional Development**". In addition to posters in the Main Exhibition Tent, the CMS, as part of the Dept. of Life Sciences, mounted displays of live marine organisms, mangrove seedlings and preserved sea creatures along the spine in the Faculty. A lecture, as well as demonstrations of the handling of the lionfish, was given by Denise Chin, Scientific Officer for the National Lionfish Project. The majority of visitors were high school and university students.

Visitors view and interact with marine creatures and listen to a presentation on the impact of lionfish on the marine environment.

Upcoming Events

- **8th International Conference on Aquatic Invasive Species**. April 21-15, 2013. Niagara Falls, Ontario, Canada.
- **Association of the Marine Laboratories of the Caribbean 36th Scientific Conference**—Managing for Sustainability and Resilience: Challenges for CZM in the Caribbean. June 17-21, 2013. Discovery Bay, Jamaica.
- **7th Mexican and 1st Pan-American Coral Reef Congress**. October 8-11, 2013. Merida city, Yucatan, Mexico.
- **The 66th Gulf and Caribbean Fisheries Institute**. November 4-8, 2013 in Corpus Christi, Texas.

Meet our newest Scientific Officers

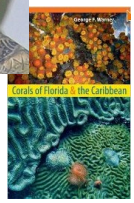
Patrice Francis began working as Scientific Officer in the Centre for Marine Sciences in October 2011. She manages the Centre's projects and oversees the procurement and use of project equipment. Patrice has a BSc. in Environmental Biology and a MSc. in Marine and Terrestrial Ecosystems (with Distinction) from the UWI. She was recently certified as an Open Water diver and has training in Heartsaver First Aid CPR AED.

Denise Henry has a BSc in Environmental Biology, and is awaiting the award of her MPhil from UWI. She is currently the Scientific Officer at the DBML, working on the Seagrass Restoration Project. She is a certified diver (Open Water) with over seven years experience diving, and is proficient in Coral Point Count with Excel extensions (CPCe).

Deana-Lee Douglas has a BSc in Marine Biology from the University of the West Indies and is a certified Rescue Diver. Deana is currently the Scientific Officer at the DBML for the FCF Northern Limestone Forest project. She also has experience in Marketing and Business. In her spare time, she enjoys reading, swimming, volleyball and badminton.

Alyssa Smith is a Peace Corps worker originally from west Texas with a Wildlife and Fisheries science degree from Texas A&M University. Before coming to Jamaica she studied wildlife management and bio tourism in lowland South Africa, acted as biological field assistant to Texas Parks and Wildlife, and worked two years for the Downtown Houston Aquarium as a diver, biology educator, and animal trainer. Alyssa is currently posted at DBML assisting with marine biology research projects as a CPR certified advanced open water diver, and a scientific outreach educator.

Where are they now?



Dr George Warner, Former Director

Dr Warner has recently published his book *Corals of Florida and the Caribbean* which documents the diversity of Caribbean corals. This guidebook contains over 150 colour photographs with detailed species descriptions as well as additional information outlining the threats to coral reefs in the region.